OHIO CULTIVATOR.

A Monthly Journal for the Farm and the Family

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The Horticultural Department.

LAYERING PLANTS.

In the month of June is the time to layer such plants as are to be propagated by catching root from the vine or stem. Grapes will also do even this late, though they should be layered in March or April. But a variety of herbaceous plants and bedding plants should now be layered for multiplying stocks, and also to keep them low and strong growing.

The practice of layering is a very simple one and is fully explained by the above cut. Take a slender runner, and trim it as here represented, cut a quarter or third slice in the side which is to be uppermost where it is to lie deepest in the ground. Scoop out a bed in the fine earth, lay the vine carefully over, set a forked stick to hold the bow in the ground, cover the bedding place a little crowning, and if the point of the vine is intended to grow upright, set a stake beyond the layering bed and train the vine upon it, as shown in the above cut.

Premium Lists for the next Ohio State Fair have been distributed to Secretaries of County Agricultural Societies throughout the State. Let everybody procure a copy, and be getting ready to compete for some of the premiums.

BUDDING FRUIT TREES.

BY F. R. ELLIOTT, CLEVELAND.

Time When to do it.—The time for insertion of buds into the stock for the purpose of changing the kind of fruit, varies with the habit and character of both the tree to be propagated and the stock on which it is to be worked. All buds, in order to be successful, must be well ripened—that is, the tree on which they have formed, must have made its terminal bud, or, in other words, the growth of the shoots must present a continuation of perfect formed leaves to its point. This ripening of buds occurs earlier in some varieties than in others; usually early summer fruits ripen their buds earlier than winter sorts. Next, the stock in which the bud is to be inserted must be in a vigorous healthy condition, but apparently about to close its season's growth. Through our northern middle States, the usual time to commence budding the apple and pear is about the 10th to the 15th of August. Further south they are in condition in June; and so on all the intermediate time, according to latitude and season; some seasons being earlier than others by six to ten days.

Such stocks as grow late in the season, should be budded late; because as new layers of wood are constantly forming with every bud of extension in growth, it follows, if the bud is inserted too soon, it must be covered and destroyed. Again, if the bud be inserted too late, the cambium has acquired consistency, the ripened flow of sap is checked, and the bud having no powers in unison, dies. The quince, from its habit of growing very late in the season, should be the last to bud.

To Prepare the Bud.—If it is necessary, in order to have the buds ready to meet the growth

of the stock, that the scion or branch from which buds are to be taken, should be made to hasten its maturing of the buds, then pinch off the end of the shoot one or two buds. In from eight

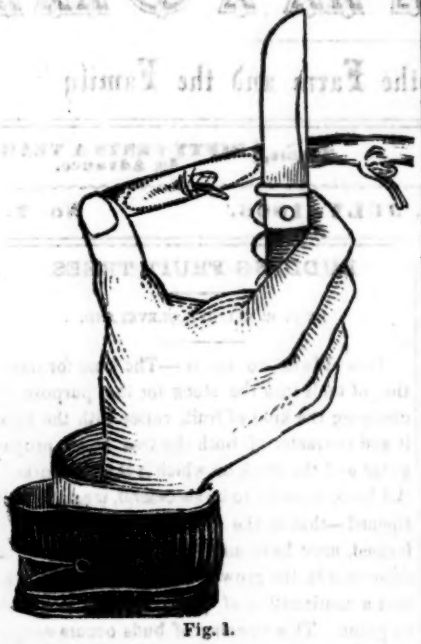

Fig. 1.

to twelve days the remaining buds will have ripened and fitted themselves for forming either new plants or branches. If this pinching is done early in the season, and the branch left to remain on the tree, the result is, the buds, after ripening, send out new branches, and make a sort of second growth.

Fig. 2.

Selecting Buds.—When cutting the scion, select healthy branches of medium size in growth, and with full and perfect buds. Cut away the leaves, as in fig. 3, as soon as you have taken the branch from the tree, as the leaves rapidly exhaust the matter in the bud when its connection is separated from the root, and thus impair vitality. The buds of the upright shoots of a tree are said to make more vigorous and upright growth than buds from lateral shoots; and buds from bearing trees are said to form fruit sooner that buds from young trees. We consider the truth of this as requiring more proof than has yet come to our knowledge; believing that the vigor and condition of the young tree, together with its natural habit, have the controlling power.

Fig. 3. Fig. 4. Fig. 5. Fig. 6.

Materials Necessary to Perform Budding.—Bands or strings for tying the bud in its place after setting, are requisite; these may be of bass matting, such as is used in wrapping sheet iron or furniture, and which may be also procured by getting the bark of our common basswood in the spring or early summer, and laying it awhile to soak in water, when the outer rind readily peels off, and the inner bark peels into thin, strong, flat strips, that tie easily when wet; woolen yarn, cotton-wicking and many other materials are used. Anything thin, soft and strong will answer. Bass bark is the best, and should always be wet just before using. A knife (fig. 2,) with a thin blade, sometimes rounded at the point, and at the opposite end a wedge-shaped piece of smooth ivory or bone.

How to Bud.—Holding the stock in your left hand, and with your knife sharp in the other, make first a perpendicular slit, two or three inches from the ground, on the north or east side of the tree, and about one inch long; then at the top of that slit, make a cross cut (fig. 4,) then with the ivory end of the knife raise the bark a little at each corner below the cross cut, being careful not to injure the cambium or new layer or soft matter just underneath. Next take the scion in hand, set in the knife half an inch above a bud (fig. 1,) resting the thumb of the knife-hand on the scion just below the bud, and make a drawing-cut just deep enough into the scion to cut out the bud and a very thin piece of wood with it (fig. 5,) bringing out the knife again half to three-quarters of an inch below the bud. This is the usual length, although the bark may be shorter or longer without injury or benefit. Now put the lower end of the bud into the top of the opening made in the

stock, and slide it down, until the bud is a little below the cross cut. Next take your strip of bark or tieing, which should be (for ordinary sized stocks) about half a yard long, and commence steady, even, tight, but not hard strain, until you have covered the whole of the cut and left nothing to view but the bud, (fig. 6:) then tie, by holding the last turn around the stock or tree in one hand, winding again with the other, tucking the end under as it comes round and drawing all tight.

Care After Budding.—In about a week or ten days after budding the buds should be looked over, and if any have failed they may yet, if still growing, be budded over.

Loosing Strings.—In about two or three weeks the strings will require to be loosened. Some will have to be re-tied, as if not so done the rapid growth will break the strings before the bud becomes well united. Generally the strings may all be cut loose in from three to four weeks after setting the bud. This is done by passing a knife perpendicular at the back of the bud or opposite side of the tree.

For the Ohio Farmer and Cultivator.

A TALK ABOUT BOTANY.

Each season brings with it its lessons of usefulness, as well as its peculiar pleasures, and it is as important to take advantage of the one as to enjoy to the full the other. The season of flowers is ever grateful to the heart. In the depths of the soul is enkindled a love for the bright and beautiful blossoms, around which cluster happy thoughts and pleasant reminiscences. This season is not only full of life and beauty, but each unfolding leaf-bud and the opening petals say to the thoughtful observer, study my habits and characteristics, and thereby learn that which not only charms the eye, but refines the taste and purifies the heart.

The young are fond of flowers—each child, as soon as it is old enough, should have a little patch of ground which it may call its own; this it should be taught to cultivate with care and skill. Its love for the bright blossoms will induce it to watch the peculiar growth and structure of each plant; and long before the botany becomes a part of its studies, the child will be as familiar with the names of the divisions of the home-grown plants as with the contents of its mother's thread basket, an article in daily use. The refining influence growing out of this intimacy with the floral world, *is* of no trifling moment; perhaps it is scarcely equalled by the advantage of the knowledge secured, which will spare the child months of toil when Botany is placed in its hands. The first lessons in Botany, to the youth ignorant of the terms therein used, are dull enough. Proper *home instruction* not only would facilitate progress, but the memory would be daily strengthened by the exercise of the power of observation.

A child can readily understand that a plant is a body endowed with vitality, that it is made up of distinct parts, and that every part has its peculiar name and use. The seed is buried in the ground; after it has lain there a few days and absorbed sufficient moisture, it swells and bursts. It is plain to be seen, that from the seed is developed the radical, or root, and the plumule, or the ascending axis, more commonly called stem or trunk. The radical turns downward, avoiding the light, while the stem extends upward to seek the light which the radical is disposed to shun. At first the stem consists of a single leaf-bud, enclosed by rudimentary leaves or scales to protect it from the insects or the cold. As the stem increases in length, other leaves are developed; between the leaf-stalk (petiole) and the stem, leaf-buds spring up which become branches. Though the leaves of plants are uniform in color, they differ as widely in shape as do the various flowers. A few only of the varieties can be given here. The leaf of the peach is oval, while that of the lilac is cordate, or heart-shaped. In the sweet-william the leaf is narrow and tapering at each end. Some leaves are auriculate, that is, have ear-shaped lobes at the base. Then there are the palm-shaped, finger-shaped, foot-shaped, and many others. These are the simple leaves; a compound leaf consists of small leaves, called leaflets. Each little leaflet has a distinct stalk and is articulated, that is, joined to the petiole of the main leaf-stalk. The May apple and peony are examples.

The frame work of the leaf consists of numerous veins. Through these the sap which nourishes the plant circulates. These veins differ in their mode of arrangement in the different plants; some run parallel from the base to the apex, as in the lily and the grasses. The rose, the birch, and the chestnut are feather-veined. Then there are the net-veined, forked-veined, &c. Another characteristic of the leaf is the form of its margin; when it is even it is called entire; when notched like a saw, serrate; when

the edge bears the appearance of having been gnawed, it is erose. There are many other modifications which need not be mentioned.

The surface (epidermis) of some leaves—and indeed the whole plant—is sometimes smooth and glossy; again it is found very rough, or wooly. The rose-leaf is smooth, and in some varieties very glossy—these are called glabrous. The leaves of many kinds of honeysuckle are pubescent, that is, covered with soft hairs or down. The great wooly leaf of the mullein is no new thing to the school boy or girl. There are many other peculiar conditions of the epidermis which must be omitted. If a green leaf is placed upon an object table under a microscope, the lower surface will be found to contain numerous little mouths (stomata) so minute that 100,000 have been found within a square inch. These mouths have many uses; sometimes they perform the functions especially exercised by the roots, that is, absorb moisture to feed the plant. A slight shower, though it does not penetrate the earth, will revive the plant through the stomata. This can be proven by putting two leaves in a glass of water. Place the upper surface of one in contact with the liquid, and the lower surface of the other; the latter will be found green and fresh long after the former is withered and dead. Exhalation, absorption, respiration and digestion are performed by the leaves. Exhalation, in plants, corresponds to the perspiration of animals. Absorption has been explained. Respiration is analagous to breathing in the living being, and by this process gases are absorbed from the atmospheric air, or evolved, as the condition of the plant demands. By digestion, the green tissue of the leaves, under the influence of the light, prepare the crude sap, and fit it for the purpose of nutrition.

The crowning glory of the plant to the child is its floral growth. Eagerly it watches the gradual development of the bud in æstivation. The arrangement of the flowers upon the flower-stalk (peduncle) differs; some are terminal, others axillary. The tulip and peony are examples of the former, the rose of the latter; in the *Solanaceæ*, the potato tribe, the inflorescence is opposite the leaf. The peduncle may be simple or branched; if simple, it bears a solitary flower, if branched it may bear several flowers. Upon the peduncle are found various modifications of floral leaves.

The flower bud is surrounded by a green cup called calyx. The divisions of the calyx are known as sepals. In the rose, this forms a cup, while in the pink it is an elongated tube. When the sepals separate, the corolla or crown is exhibited in all its beauty and fragrance. The divisions of the corolla are called petals, each petal consisting of two parts—that answering to the leaf stalk is the claw—if the claws are united, a tube is formed, as in the phlox; the expanded portion is called the border or the flower-leaf. The petals and sepals together form the perianth. Just within the perianth are found the stamens. These are thread-like organs, consisting of three distinct parts—the filament or stem, the anther situated at the summit of the filament, and the pollen. The anthers, which vary in form in different kinds of flowers, are composed of two cells, these cells contain the yellow grains of dust called pollen. The pistils occupy the centre of the flower at the termination of the axis. These are sometimes numerous, though in some flowers only one is found. They also consist of three parts the ovary or germ, the style, and the stigma.—The ovary is the hollow part of the pistil, situated at its base, and contains the seed. The divisions of the ovary are carpels. The styles are a prolonged part of the ovary, or the carpels, and usually equal the number of the carpels. The stigma varies in form, but it is generally globular. It is situated at the top of the style. Like the ovary and style, it may be simple or compound.

Now let us go back and state the main botanical terms, which apply to the flower-plant from its roots to its crown of beauty—the flower itself. We will take for example the Spring Beauty, a little wild blossom which can now be found all through the woods.

Beginning at the base of the plant, it consists of a root or radical, a stem or plumule, and the leaves. Then we come to the outer covering of the flower which is called the cup or calyx; next the corolla or crown; then the stamens, filaments, anthers, and pollen. Within these are the pistils, ovary, stigma and styles.

Let the mother take a simple flower and teach her child these especial points. It will soon become familiar with these terms. Each day will develop some new example, which will suggest topics of interest, thereby opening up new avenues of pleasure and profit which will prove of mutual benefit. MARY DAY.

On the Farm, 1866.

NAMES OF FRUITS.

Mr. BARRY, of Rochester Nurseries, writes to Mr. MEEHAN concerning the confusions in the science of pomology:

Under this head you discuss the difficulties frequently experienced by Horticultural Committees in identifying varieties of fruits, and the existing evil of old fruits being introduced under new names. I cannot see how you hold either Pomology or Pomologists responsible for either of these evils.

It is by no means an uncommon thing for Agricultural and even Horticultural Societies to appoint fruit committees who are not familiar with the most common varieties. How can the Science of Pomology furnish these committees a substitute for experience? It is not so difficult a matter for Botany to explain the difference between the Strawberry, Raspberry and Blackberry; or between the Apple and Pear; but it would be impossible, in my opinion, for Pomology to describe the different varieties of the Apple, Pear, Strawberries, Raspberry, etc., so that novices might distinguish one from the other at a glance, on an exhibition table. I think the fault is more with the Committees than in the Science.

As to the "seedling nuisance," of which you very justly complain, I do not think Pomology responsible for it either. The Pomological rule is, that "no new seedling fruit shall be entitled to a name, or to pomological recommendation, which is not at least equal to any similar varieties of the first rank already known etc.

That no new fruit can be considered as definitely named until the same has been accurately described in Pomological terms, by a competent Pomologist or Fruit Committee, or until such description shall have been published in at least one horticultural or Pomological work of acknowledged standard character.

That before being named, the quality of a new seedling fruit should be decided by at least two seasons' experience," etc. etc.

If new seedling fruit was carefully subjected to these rules, old varieties would not so frequently be introduced as new ones; nor fruits of indifferent character as possessing wonderful excellence.

All rules, however, seem to be disregarded. Those who discover a new fruit, or a supposed new fruit, dispense with all ceremony, offer it for sale at a good round price, and it is disseminated as rapidly and successfully as though it were recommended by the highest pomological authorities in the land. Who is to blame for this? A credulous fruit-growing public; or, if not credulous, at least willing to be cheated rather than be behind in procuring a new variety.

This evil was almost as great 20 years ago as it is now, and like a great many others that cannot be cured must be endured. The public get cheated frequently, both by new fruits at home, and new fruits from abroad; but, in looking back over the last quarter of a century, the real acquistions are so many and so valuable, that our numerous disappointments are almost forgotten. While it is to be regretted that so many errors or frauds are committed we must all rejoice at the existence of that spirit of enterprise which lends seedlings so much encouragement, and without which indeed errors could not be perpetrated. This is not offered, however, as an extenuation of the crimes of deception and carelessness both of which deserve severe censure; and I hope the Horticultural press will not be loth in bestowing it where deserved.

To which Mr. MEEHAN adds:

We have often written seriously on the want of some better system of classifying fruits,—not so much that the novice might know at a glance the names of fruits, but that we who have some pretentions to pomological knowledge, might not so often be led astray as we are. The Editor of this journal does not even except himself. We thought a lighter article might attract attention, where the heavier ones have failed; and we are glad it has brought forth the very good suggestions of Mr. B.

Now to show the necessity of some better system. At a recent meeting of the Pennsylvania Horticultural Society, a set of three apples were presented to a company of veteran pomologists,—not novices. No one knew them positively. The writer of this pronounced one Rhode Island Greening, another Tewkesbury Winter Blush, probably, and the other unknown. They were all from the same branch of the same tree! Some of the fruit were large and green, some small and rosy; some with green ribs, some with deep pink sutures; some with sweet white flesh; and so on. Yet, after the truth was made known, it was clearly seen that, amidst all these extraordinary variations of the same fruit, the calyx and calyx basin, the stems and stem basins, were so nearly alike

in all, that they might be taken generally as the most fixed characters on which to found distinctions, in a system of classification.

STRAWBERRY CULTURE AMONG FRUIT TREES.

The employment of the ground where young plantations of trees are made in strawberry beds is not to be recommended. We notice that this course is being adopted by some, and more especially by those living in the vicinity of villages or where there is a market for the sale of the fruit. They argue that the trees need some cultivation and as the growing of strawberries for market is extreemly profitable, a very lucrative business can be carried on in the sale of fruit while at the same time the trees are growing and maturing, and the work laid out on the strawberry beds is of equal benefit to the plants and the trees. Now there is scarcely any plant that exhausts the vegetable manure in the earth more rapidly than the strawberry, and hence it is observed that these beds require frequently a change of ground, that is, to be removed to a soil where the vegetable manure has not yet been consumed.

Some have affirmed, also, that the strawberry throws off excrementitious matter unfavorable to fruit trees; but be that as it may, there can scarcely be a doubt as to the fact that strawberry beds and fruit trees do not thrive well together, at least on the part of the latter. Of the pear we can speak from experience, having tested the matter as an experiment. How far a judicious course of manuring or doctoring up the land, to supply the waste of organic matter, might have obviated the difficulty we are unable to state, but can only give the fact that apparently healthy and thrifty trees, upon good soil, when subjecting the land to strawberry culture, were checked in their growth, became sickly and failed.

It is a question whether high manuring, or the forcing system, applied to young trees, is very good policy. In our cold, bleak climate, where the mercury in winters frequently falls to 10 degrees below zero, it is necessary that the growth of trees be slow and the wood made annually more mature than in temperate climates. We have tried both plans—the forcing system and a moderate thrift or growth—and the latter always with the best results. Young plantations of trees require that the land be thoroughly cultivated from year to year; but there are other crops besides strawberries that pay well and can be advantageously grown in the intervening spaces. Any of the various root crops, if the trees are not large, will come in play, and as they require thorough cultivation and do not exhaust the soil largely of its fertilizing elements, they are not objectionable. When visiting those excellent farmers at the Oneida Community last year, we observed that beans were planted among the young trees and were informed that the crop was regarded as one of the best that could be grown in connection with the trees. The bean crop does not shade the ground so much as root crops, and in this respect there is a decided advantage, while their culture serves equally well in promoting the thrift and health of the trees. We do not know how far the experience of others accords with our own in regard to strawberry culture among trees, but may remark here that while visiting the great fruit region of Western New York, the past summer, we looked over the seed farm of Mr. HAYWARD, of Rochester, when this very question of strawberry culture was put by a friend to Mr. HAYWARD, and his advice asked. Mr. H. replied promptly and decidedly, that strawberry culture among a young plantation of trees would be fatal to their thrift and success, and he advised our friend to abandon the idea of growing the plants in connection with his young orchard.—*Utica Herald.*

PLANT LICE KILLED BY LADY BUGS.—Having seen it several times stated that the little insect known as the lady-bug would keep plants free from spiders and other vermin, I last year put a lady-bug on to each of three coffee plants which had begun to be infested with lice. The bugs remained on two or three rows of the bed during the whole of the season, and these rows were entirely free from vermin, while the other part of the bed was badly damaged by lice.—If the lady-bugs were instrumental in this matter, they may be considered as friends of the gardener, and their presence should be considered a blessing. They might be made especially serviceable to house plants. This bug, as you probably know, is of a reddish yellow with black spots, and is about the size and shape of half a good sized pea, and multitudes can be found in early summer on alder and other bushes.—*Cor. Vt. Farmer*

THE BLACK KNOT.

In the course of a long article on the various theories of Black knot on plum and cherry trees, BENJ. D. WALSH, the well known Entomologist of Rock Island, Ill. gives the substance of his views and observations as follows:

"The old, dry Black-knot remains on the tree for many years, and the place to look for new Black-knot is on such trees as have been already attacked and are loaded with Black-knot, without being as yet completely killed by it.

1st. By the middle of June the new Black-knot is pretty well developed, and may then be readily distinguished from the old by its dull, opaque, brown-black color while the old is coal black and more or less glossy. When cut into, it is fleshly inside, like an apple, but not juicy, and of a pale greenish yellow color, with fibres radiating from the axis of the twig, while the black-knot is internally hard and woody, and of a reddish-brown or rust-red color. The brown black color of the external surface is retained till the last week in July, when the surface of the new Black-knot becomes gradually covered all over with little, coal-black, hemispherical plates about the size of a pin, each of which is a distinct fungus, named long ago by Schweinitz "Sphæria morbosa." Even on the old Black knot this fungus may be readily seen, at any time of the year, covering its entire surface. So far, I have added little to the information already published on this subject, except by the specification of dates. But in addition to these facts, I discovered that about the last of July or the first of August, there grows from each fungus on the surface of the Black-knot a little cylindrical filament about one-eighth of an inch long, which no doubt bears the seed of "spores" as they are technically termed, of the fungus, and that these filaments very shortly afterwards fall off and disappear, leaving behind them the hemispherical plates, which alone had been hitherto noticed by the Botanists. In another Epipbytous fungus, which grows commonly and abundantly in Illinois on the Red Cedar, but which differs from the Black-knot in being attached to the twig by a very short stalk or peduncle, and in being roundish and externally of a reddish-brown color instead of elongate and black, there is a precisely similar phenomenon; except that the plates and filaments are very much larger, and that each filament when it falls off leaves a ragged scar behind it. In a single specimen of Black-knot noticed August 6th, I discovered that the filaments not only covered the entire surface of the Black-knot itself, except where a few of them had already fallen of, but that they were thinly studded over the twig for an inch or two above and below the swollen black part; thus proving that the fungus sometimes extends rather further than on a cursory view it would appear to do. Towards the middle of August, the new Black-knot, having perfected its seed, gradually dries up and is internally of a reddish-brown color. In other words, like so many other annual plants, it dies shortly after it has perfected its seed, just as a stalk of wheat or of corn dies shortly after the grain is ripe.

2d. During the months of June and July I collected from time to time numerous specimens of the common "Curculio," which many persons had previously bred from Black-knot, I bred for the first time therefrom no less than five distinct species of insects, none of which could be considered as gall makers, but for a single true gall-maker; and I can confirm Dr. Fitch's assertion, that some specimens are wholly free from larvæ of any kind when cut into.

COAL TAR, ETC., FOR INSECTS.

At a late sitting of the Imperial Agricultural Society of France, M. Chevreul communicated an interesting paper by M. Lemaire on the use of coal tar and phenic acid (also called phenol and carbolic acid) in destroying parasites and ridding both plants and animals of them. A very small quantity of phenic acid, benzine, or alkaline, will destroy mycrophytes, (mold, microscopic mushrooms, &c.,) and a great many radiata, molluscs, insects, and vertebrata. All the inferior creation avoid the emanations of those substances. M. Lemaire commends, in the case of the oidium, for instance, that three per cent. of coal tar be intimately mixed up with earth or sand and laid about an inch thick all round the root of the vine. Some twenty vines treated in this way yielded an excellent crop, while an equal number adjoining the former, and left to themselves, had all their grapes utterly destroyed.

When insects are to be kept away from plants, two different cases present themselves: either the plant is as yet free from them, or it has already been attacked. In both cases the above mentioned coal-tar sand will perform its office, it is said, with infallible efficacy. Snails, slugs,

larvæ or perfect insects will avoid all plants thus protected so long as there is a volatile principle left in the coal tar, which, when exhausted, should be renewed.

This sort of coal-tar powder has another remarkable effect. When introduced into the soil in proper proportions, it will not only cause all insects to disappear, but also increase the vigor of the plants themselves. If manure be watered before being dug into the earth, with water containing one-thousandth part of phenic acid, a similar but less durable effect will be obtained. M. Lemaire also says that corn and all dry agricultural produce in gardens or barns may be saved from the ravages of moldiness or noxious insects by merely impregnating the air with the emanations of phenic acid.

OIL TO KILL INSECTS.

Many years ago we were interested in some experiments made by some medical students on the destruction of insect life by oil. The slightest drop of sweet oil put on the back of a hornet, beetle, bee or similar thing, caused its instant destruction. We were told the breathing pores were closed by the oil, and life was literally smothered out. In after life greasy water was always a favorite mode with us of destroying insects,—and we have repeatedly urged it upon the readers of this journal. Yet we are astonished to find how little the hint has been acted on. Almost every day we meet people who ask how to destroy this insect or that, and our drawer is filled with similar inquiries; and to all the idea of grease or oil seems as new a one as if we had kept the matter a most profound secret.

Of the millions of people in the United States how few are there who would not "give any thing," as they say, to know how to keep away the cabbage fly from their seed beds;—yet about a tablespoonful of coal oil put in a common garden water-pot of water, sprinkled over the seed bed, when the little jumping beetle is noticed as having appeared, will instantly destroy the whole brood.

In short we have no doubt that coal oil, well diluted with water, is death to all kinds of insects, and there is no reason why it should not be in as general use as tobacco is for killing aphides—more valuable in fact because it can be applied in so many cases where smoke can not.

One great point in favor of coal oil is that it acts as a manure to vegetation, while dealing out death to insects. We have seen cabbage beds nearly destroyed by the cabbage fly, have the whole crop of beetles destroyed almost instantaneously, while in a few days afterwards the plants, as if by magic, would cover the bed with luxuriant leaves.

We may add that any oil is as good as coal oil, but that being likely to be more easily obtained when wanted, is recommended; also care must be used to keep the water in the pot stirred when used so that a portion of the oil gets out as the water runs,— otherwise the oil floating on the top of the water will stay there till all the water goes out, and only the oil be left for the last. For this reason a syringe, in many cases, will be preferable to the water-pot, as the oil and water will have a better chance of getting out.—*Gardener's Monthly.*

GRAPES IN THE SOUTH.

A correspondent of the Southern (Miss.) *Ruralist* makes the following statement concerning grapes:

"From a trial of the Catawba, after six years, I am convinced it will not answer in this location—Centerville, Miss. I had about 1500 vines planted on land with every exposure—well subsoiled, and prepared in the most approved manner. At the third year they bore a tolerable crop, after which about 25 per cent. died annually, and now I have not more than 50 living. I know that for wine nothing can excel the Scuppernong. I wish to plant the same ground in that grape. It is quite equal to any other for the table, only too rich and cloying, and for wine I think without an equal. Now can you say as much for the Concord? If, from your experience, you know the Concord will do, I will try some of that variety. Will the vines of that variety live a reasonable time, and will the grape not rot as the Catawba does?"

To which the editor replies:

"We coincide fully with our correspondent's views about the Scuppernong as a wine grape for the South. All things considered, we think it without a rival for this purpose. For the table there are some other varieties that we prefer, foremost among which stands the true Herbemont Madeira. The Lenoir, Black July, Ohio, and one or two other kinds that we have seen in cultivation, as the Warren or Herbemont, are comparatively worthless. As a mar-

ket grape for the million, nothing is comparable to the Concord. We have cultivated it under a great variety of circumstances for the last twelve years, and have always found it reliable. We have seen no disease either of fruit or vine during all that time. Our main vineyard consists of 2500 Dianas, 5000 Concords, and 1000 of all the other sorts."

— And we, too, can give our unqualified endorsement of the Scuppernong grape for a delicate wine, as we have tested it from the mountainous regions of North Carolina, but we presume it would not do north of that State. There is now open an excellent field for the culture of this grape, and a sure reward in store for the parties who may engage in it with an intelligent enterprize.

IN THE GARDEN.

The plants of the garden are growing apace, and need the watchful care of the gardener, both in keeping them free of encroaching weeds, and in training such as need supports or other assistance in their early growth.

Cabbage for fall or winter use may now be planted out. The soil for cabbage should be rich and fine, and free from foul humors which breed club-root. To avoid this common maladay, before setting out the plants, dip them in a bath of moderately strong, cold soap-suds, in which soot from a wood fire has been plentifully sprinkled. If the young cabbages are infested with blue lice take a sprinkling pot and shower them with a bath of weak lime water.

Tomatoes.—As soon as the vines begin to spread, lay small brush-wood under them, or rather stick small brush about the plants like pea brush, so the vines may spread away in a slanting direction and be kept clear of the ground. When the tops attain to considerable size pinch off the ends to make them grow stocky. A good use can be made of cast off hoop skirts, by inverting them over the tomato plants and supporting the upper hoops with stakes, so the vines will fill the inside space.

The Brier Fruits, like blackberries and raspberries, have now made the young canes which are to serve as bearers for the next year. These should be thinned out by removing all superfluous shoots, leaving only enough to make the stock complete after the bearing wood of this year shall have done its duty and been cut away. This will ensure more thrifty canes and prevent a too heavy draft upon the present bearing wood. The tall, succulent young shoots of the blackberry should be tied to stakes or rails, to prevent them from being blown over, as they break off very easily in this stage of their growth.

The Grape Vines are now in a condition to require constant attention. The young shoots in full foliage, and set with fruit bunches, expose a broad surface to the action of winds and are often weighed down by their own luxuriance of growth. To protect them from damage they must be tied to supports. Always have a knife or scissors in hand, when going among the grape vines at this season, and clip off all little shoots that you do not desire to have grow. Do not neglect this for several weeks, and then go in to butcher the ram, pant vines, but nip the superfluous shoots as they spring out from day to day. This will keep the vines in proper shape, and send the strength where it is needed. Do not cut away the leaves upon a grape vine, but nick out the superfluous lateral shoots. Leaves are essential to the growth of the fruit.

The Bug Pests.—There seems to be no sure remedy for keeping off bugs and flies from the tender plants, which does not involve the strictest watchfulness. With some sorts of these pests of the garden, some people claim to have found a remedy in the use of kerosene oil, by saturating rags and placing them near the plants; others dip a feather in the oil, and touch the plant with it. Others protect their young cucumber and melon vines by a covering of some gauzy stuff over the top of a shallow box. But farmers will seldom practice any of these methods; for such the practice most likely to be adopted with success, is to go among the vines every morning early, while the bugs are stiff with cold and dew, jar the plant by a light snap of the thumb and middle finger, when the bugs which are secreted on the under side of the leaf will fall upon the earth, where they can be caught in the fingers and immediately killed. In our own practice we have found this the easiest way to get along with the little striped bug on the vines.

Hens to the Acre.—One hundred fowls are as many as should be quartered upon a single acre. As high as one hundred and fifty have been kept, but for success in breeding and producing eggs, at least one square rod of ground should be allowed each fowl, and more than this would be better.—*Bement.*

The Agricultural Department.

GAS-HOUSE LIME.

TALK AT N. Y. FARMERS' CLUB.

Solon Robinson—The best way to apply gas-house lime is to spread it thickly upon Canada thistles or some other weed pest that you wish utterly to destroy. It is unsafe to apply it anywhere else about the farm, unless it has lain exposed to the weather one year or more, and then who can say it is of any use?

Gas-house lime, when first thrown out, is worse than useless for a farmer—it destroys, rather than fertilizes the plants. The only way to make it available is to expose it for a long time to the atmosphere—at least four or six months. Spread out a few inches thick, and turn over and over several times, that it may be thoroughly aired and washed by the rains. Then take it in time of a drouth, when in a condition of dry powder, and apply it to the land, or store it in a very dry place for future use, in the same way, and for the same purposes you would gypsum. It will not pay to haul it far and put it through these manipulations, where plaster and pure lime are as cheap as in most parts of this country.

P. Quinn—I shall disagree somewhat with Mr. Robinson upon the use of gas-house lime. We have used some 2,000 bushels upon Prof. Mapes' farm within the past nine years. I concede that in large quantities it will kill vegetation, It killed two or three oak trees where it was piled. I think in large quantities it would destroy Canada thistles or any other weed.—Spread thinly upon the surface, say at the rate of 12 bushels per acre, in autumn. I think it beneficial to our State red lands, and worth all it costs.

John G. Bergen.—We visited the farm of Andrew K. Hayes, Winslow, N. J., and found that he had used gas lime largely for the production of clover, and last year upon a clover sod he obtained 42 bushels of wheat per acre.

Solon Robinson reiterated the statement made by B. B. French, Washington City, who asserts that a plentiful application of gas lime under his plum trees prevented the ravages of the curculio, and was the means in his judgment of securing him a bountiful supply of fruit.

Dr. Trimble said he had no faith in the application to prevent curculio, as the animal would live in a strong solution of lime or tobacco. Mr. Bergen thought there was no reason to doubt the positive statement of a gentleman of veracity like Mr. French, nor could he see why an article strong enough to kill Canada thistles might not kill or prevent curculio.

Prof. Tillman—As much of the offensive odor of coal distillation is embodied in the lime, that may account for its being offensive to insects, as we know that strong odors, as tobacco, camphor, &c., will keep them away from any locality.

The editor of the *Scottish Farmer* says of gas-house lime: Let the desired quantity of gas-lime be procured at least four or six months before it is to be applied to the fields, and let it be laid down in some place allotted to itself, where it will have the full benefit of the atmosphere, as well as being exposed to all the rain that may fall; let it be spread out thinly to the depth of from 8 inches to 1 foot, and turned over at least three or four times during the first two or three months, and any time after a continuation of drouth, when, in all probability, it will be perfectly dry, let it be gathered together and placed in a dry shed where there is no damp, otherwise it will become like mortar, and consequently unfit for being either incorporated with farm-yard manure or being spread over the land. If the foregoing directions are attended to, the action of the atmosphere in conjunction with the moisture from the rain will thoroughly remove all injurious gases, or those which may not be removed pass into combinations which are totally harmless.

—We once saw a lot of gas-house lime dumped it a field near the city, which kept up such a loud smell for six months that it was voted a large-sized nuisance. It costs more to make it available than it is worth.

A Wonderful Tree.—In the birch wood of Culloden, Scotland, there is a remarkable tree, well worthy of note. About thirty yeas ago a young giant of the forest was blown down, and fell across a deep gully or ravine, which it completely spanned, and the top branches took root on the other side. From the parent stem no less than fifteen trees have grown up perpendicularly, all in a row; and they still flourish in their splendor, while the parent stem evinces no token of decay. Several of the trees are not less than thirty feet high. The tree is a birch fir.

If your swine have hog-cholera, cure them, or else don't cure the bacon.

OSAGE ORANGE HEDGE.

In reply to a correspondent of the *Germantown Telegraph*, last fall, the editor of that paper said that all things considered he did not think a hedge of Osage orange cheaper than a post-and-rail fence, or so good. To this THOMAS MEEHAN, the well known arboriculturist replies:

I am not surprised at your opinion. I believed in the same way myself up to a very recent period, and there are many highly intelligent agriculturists of the same opinion; and if we look at hedges as generally seen, with very good reasons for the faith they hold. Becoming satisfied that the fault was in the management rather than in the fence, I have made the question a practical one, and have had the opportunity within the past twelve months of examining hedges in Pennsylvania, New York, New Jersey, Delaware, Ohio, and Indiana, and am well satisfied that *when properly managed*, hedges or "live fences" are cheaper, though timber for post-railing can be had for the cutting, and infinitely more satisfactory.

Not to go too far away from home for an illustration, I would refer to a few miles of Osage orange fence on the farm of Henry Engle, of Marietta, in this State, which is so thick from bottom to top that a wren could scarcely find its way through, and the first cost and subsequent attention is less than a post-and-rail fence would require. Indeed, in one point, Mr. Engle's fence stands extremely pre-eminent, for while neighboring farmers had their lumber fences totally carried away by last fall's inundation, his live fence remained uninjured.

A well made hedge, properly attended to, will cost less to make and less to keep in order than any kind of lumber fence. It will be strong enough to turn cattle in three or four years. It will not have vacant spots by plants dying out. It will not need posts or rails to patch unpleasant eye-sores. Its roots will not penetrate very far on either side. Nor will it be objectionable in any shape or form; though as usually seen it has all these objections and perhaps more.

Every one knows what the cost of a post-and-rail fence is: I will therefore only point out the cost of an Osage Orange, and the comparison can be readily made by any one.

Before the war, when seed was readily obtained from Texas, and there was little demand for plants in this section, the best quality plants, one year old, brought from $5 to $10 per 1000. Now that seed is scarce and demand great, they bring from $10 to $15. No doubt in a few years the price will fall again; but for the sake of putting the point the strongest in favor of the lumber fence, we will put the price of plants at the highest figure, $15 per 1000, which, set about six inches apart, would cost $150 per mile.* Unless the soil be unusually hard or stony, two men will set one mile in three days of ten hours, which at $2 per day will make the first cost of one mile of hedge $162. The first year all the attention required will be to mow away the weeds twice during the season from about the hedge, which will cost $5. The second season $5 more. This is all the attention it should have—no trimming or cutting being given to it. This brings us up to the early part of the second winter, and the plants will have made strong straight shoots six or eight feet high. During this winter they are to be *layed*. This consists in cutting each plant half way through, about six inches from the ground, and laying them over in a line one over another. From below the cut very strong shoots will spring up straight through the reclining branches, and make an impenetrable jungle which nothing but a cannon ball can easily penetrate. This laying will cost perhaps $10 per mile. About July of this season the hedge is *mown* into shape, which is that of an inverted V. This shape is essential to a cheap hedge, not only because it has but two faces against a square top's three, but because it is the only form which will enable a good mower to cut it with a sharp scythe, which he can do a mile of in two days, or say $5 more.† Here you have at the end of the third summer a hedge that will turn cattle, and be a beautiful

*While examining an Osage hedge on the grounds of J. Park Alexander of Akron recently, he said if he was to set a new hedge, with his present experience, he would set the plants two feet apart and they would fill all the bottom space better than when set near together. —ED. O. F.

†A more important consideration for this form of hedge is that the lower branches may all reach out to catch the dews and rains, which is essential to their healthy growth. If the bottom branches are overshadowed by the top, they will become puny, fall behind in growth, and finally die out, and leave gaps which must be filled by foreign material, as no new plants will grow in an old hedge.—ED. O. F.

sight, for $187; or in case it might be said that I have calculated for experts at the labor, when only "greenhorns" could be had, say $200 for the mile when perfected; or 38 cents for every ten feet of a fence which has not the "get-over-me-if-you-please" expression of your post-and-rail, when your bergamots or your pippins are just painting their autumn cheeks; and one which will not allow the most hungry hog access to your cornfields, but will defy the strongest freshets to wash away.

There is one more objection likely to be made—"They starve the ground on each side."

Physiologists teach, and observing agriculturists well know, that "the roots of trees extend but little farther than their branches."—When an Osage Orange hedge is neglected, so that the plants run up say fifteen feet high, the roots will extend eight or ten feet on each side; but when the hedge is kept down to its proper height of say five feet, three or four feet on each side is as far as ever any apparent injury will result, which is little farther than is now usually left by the sway of a swingle-tree in plowing against a fence, or by necessary headlands.

For my own part I am fully convinced that when the simple art of keeping and planting hedges as I have detailed, is properly understood, the whole country will be ruled with them, and lumber fences be the exception, particularly now when so many thousand miles of fences are going to decay, but which will serve to make a slight protection to young Osage hedges until their second or third year.

A PATTERN FARM.

At a meeting of the Mass. State Board, some months since, Mr. Huntington of Hadley read a report of farming matters in his neighborhood from which we take the following items concerning the farm of Mr. Green, which is worthy of note:

"If I were requested to point out a pattern farm, all of of whose operations are well balanced, where no one crop is cultivated at the expense of others, but the grand object is the highest condition of every field, where neatness order, thrift and independence are obvious to the most careless observer, I should not go beyond the limits of my own town. It lies upon its eastern verge, and has an eastern exposure, being separated from the alluvial portion of the town, by a considerable elevation. Mr. Green (the owner of the farm) began his farming operations about forty years since, with the purchase of a tract of twelve acres of brush pasture to which, the next year, he added a tract of wood land of thirty-six acres. This he cleared off and brought into cultivation at once. Since then he has been making additions, until now, he with his sons who are settled around him, have over two hundred acres under their skillful monagement.

He has practiced from the first mixed husbandry, directing his efforts constantly to the production of the greatest quantity of grass and the different kinds of grain, not for sale to much extent, until converted into beef, pork mutton, butter, cheese, etc. He raises his own stock chiefly, and in this way avoids something of the disappointment of his neighbors, who, after feeding their stock through the winter, are sometimes compelled to sell for little or nothing more than they gave for it the previous autumn. Of late he has added a flock of sheep to his other stock, principally for the purpose of raising lambs for the market. His sheep and cattle, though chiefly grades, are bred with great care and skill, and with reference to the special purposes for which they are designed. The milking qualities of his ewes are as carefully regarded as his cows, and as he claims with quite as much reason. The readiness with which his stock is taken by the butchers, shows the success to which he has attained both as breeder and feeder.

Mr. Green dates his first marked success in agricultural operations, from the time when he began the use of lime. He became interested in a kiln some six or eight miles distant, and for several years used it largely. Its effect was very marked in begining in white and red clover, while the grain raised by him was almost uniformly better than that of his neighbors who used no lime.

Clearly perceiving that with his system the amount of his income would depend in a great measure upon the amount of grass that he could raise, he made this a matter of the first importance, and finding his own experience to corroborate the assertion that manured land will produce a much more nutritious hay than unmanured, he commenced and has followed the practice of top-dressing until he now has in permanent meadow a lot of twenty acres, which for the quality and quantity of its produce is probably not often equalled by any of the grass lands of the low river valley.

His present method of using lime is to compost with earth and manure, and is somewhat as follows:—He has two receptacles for manure, viz: the cellar and the barn-yard. Both are well supplied with absorbents, generally earth. After planting the whole is worked over, and with the cellar manure, is mixed about a hundred pounds of plaster to five or six loads of compost, while the yard manure gets double that quantity of lime. The yard manure is worked over twice during the summer, and that in the cellar three times. In the autumn it is hauled out, the permanent grass lands receiving a dressing every year equal to five or six ox loads per acre, and distributed in such a way that the part that gets the plaster compost this year shall have the lime next. Mr. Green thinks a light dressing every year better than a heavy one once in two or three years.

On such lands as are not in permanent mowing, a rotation system is pursued, corn being the first crop and oats or rye the second, seeding with white and red clover and timothy, after which it lies in mowing or pasture until it needs breaking up again. For the corn crop the same manure is used as for grass, at the rate of twelve or fifteen loads per acre, and applied in the hill. This for his sheep pastures. Those on which the cows are fed receive an additional dressing of green manure, to make up for the loss occasioned by the yarding of cows over night.

WHEN TO CUT WHEAT.

The usual practice among farmers is to let wheat stand, before it is cut, until the straw is entirely changed in color from green to yellow and the grain has become hard, and nearly or quite dry. Numerous experiments have been made in this country, but more particularly in England, to determine at what period of ripening it is best to cut wheat, having in view the greatest yield of grain, and that of the best quality. It is well known to those who have investigated the subject, that the ripening of the seed consists entirely of certain chemical processes, which we cannot here attempt to explain, that are of importance to be considered in order to make the most of the crop after it has been grown. The immature grain of wheat, in its early stage, is found to be mixed with a milky fluid, which gradually changes its consistence from this milky state to one more firm and solid. These experiments have been instituted to determine with accuracy at what period of this change the grain should be harvested to secure the greatest advantages. The unanimous opinion appears to be, that if grain is cut soon after the straw below the head has turned yellow, while the lower part of the stem is still green, and the seed yet remains in a soft and doughey state, the grain will weigh more to the bushel, and yield a greater amount from a given space of ground, that more and better flour is made from it, and where the straw is to be fed to stock, it is relished better and is more nutritious than if the grain was allowed to stand until it became fully ripe.

These experiments have been so frequently made, and with such uniform results, that we feel unwilling to let the coming harvest pass without again reminding our readers of the fact. A very careful series of experiments were made of this character, some years since, in Yorkshire, England, by Mr. John Hannam, and he sums up the loss by shelling, and in the weight and quality of the grain, from letting it stand until fully ripe, equal to $6 per acre—a sum, or even half of it, that should not be lost sight of by the farmer.—*Rural World.*

TIME TO CUT TIMOTHY HAY.

C. S. Paine of Vt. writes to the N. Y. Farman's Club: "The question should not be, at what stage will it produce the most wieght, or bulk, or, perhaps, nutriment, if that nutriment is turned to a hard crusty shell of wood and cannot be made available to the animal that consumes it. Such hay may be best for a city consumer, where he cuts, and, perhaps, steams it to make it tender, but I think not for the farmer. I have noticed that animals are more fond of hay cut at least before all the heads are in blossom. I have noticed that if after feeding such hay you change to timothy cut after the seed is ripe, they will look at the feeder, as much as to say, I want something better. And then again you will find the mice will burrow in such hay, and you will find it full of chaff and chankings. A man of my acquaintance cuts his timothy mostly before in blossom, and always finishes before it is out of blossom, and it is astonishing to see how much stock the bulk of his hay will keep, the hay looks almost like green grass his sheep and cattle fat on it, and so far from the sod deteriorating it is improving every year and he winters more stock on the same number of acres than

any farmer I am acquainted with. His crop of rowen is almost as good as the first crop."

ALFRED YOUNG writes:—"My father cut timothy when in full bloom, and I know that, he fatted cattle on that kind of hay, without grain, or other feed. Also one of the best dairymen in this township says that cows will give much more milk fed on early mown hay than late. I have always believed that ripe timothy was not much better than straw. It is what I call grass straw, being woody and fibrous, with but little nutriment."

EARLY CUT HAY FOR COWS.

Mr. LEWIS, one of the best dairymen of Herkimer Co., N. Y. says he has demonstrated from actual experiment that early cut hay is every way better for milch cows than hay as ordinarily harvested, and an additional feed of meal. Indian meal was bad in its effects. He had formerly fed it and its use had always given more or less trouble with stock. It was a fruitful source of garget and other inflamatory diseases. Since he had abandoned the use of grain and depended upon hay made from early cut grass, nicely cured, his cattle had escaped the various troubles to which they were subject on the other course of treatment, and their condition as to flesh was all that could be desired. He thought farmers in time would come to see the advantages of securing hay of this character, since it approximated very nearly to grass in pastures, and contained all the elements for the development of milk, flesh and muscle in connetion with a high degree of health.

FELLING TREES BY FIRE.

The idea of burning down a tree six or eight feet in diameter, and green, would have seemed to be as simply absurd and ridiculous.—But the thing is done in Oregon every day at a vast saving of time and labor. The operation is done in this wise: A hole is bored into the trees horizontally, the nearer the center the better. Then directly under this hole another is bored at an angle of elevation such that the holes meet together near the centre of the tree. A coal of fire with a little kindling is introduced into the orifice thus formed, and the upper one performs the functions of a chimney. The heart of the tree is dry, and contains a considerable amount of pitch, and when manipulated as I have described, burns briskly.—It is generally necessary to feed this fire with some fresh fuel from time to time. But one man can keep a large number of trees thus burning, and will get twenty or a hundred trees down thus much quicker and easier than he could otherwise do. In a similar manner when the tree is cut down, it is cut into pieces by being burned in two. A hole is burned into the log from the top, and another from the side till they meet as before described, when the perpendicular hole acts as a flue and the horizontal one furnishes the draft. It often happens that in burning a large tree into lengths for saw logs, there is not more timper wasted than would result from the chopping of a log with an axe.

AMMONIA IN MANURE.

In a ton of well rotted manure there is a trifle over a pound of free ammonia, and in fresh manure, three quarters of a pound, while of ammonia in the form of salts which can be decomposed by lime, there is in the same rotted manure a trifle over a pound and a quarter, and in fresh barnyard manure, nearly two pounds. If spread on the ground in dry and warm weather, the free ammonia would no doubt escape, but the loss from this course late in the fall would be extremely slight. Suppose that twenty tons of manure are applied to the acre, and the free ammonia to escape, we should lose 15 pounds of ammonia from the fresh manure and 20 pounds from the rotted, which would amount to more than the war tax. Couldn't afford it anyhow.

SCREWING ON IRON NUTS.—Nuts have sometimes been found so tight that no wrench could remove them. This was because they had been held in the hand till they became warm, and being then applied to very cold screws in winter, they contract by cooling while on, and thus held the screw with an immovable grasp. Always avoid putting a warm nut on a cold screw; and to remove it, apply a large heated iron in contact with the nut, so as to heat and expand it, and it will loosen at once—or a cloth wet with boiling water will accomplish the same purpose.

In England and Wales, twenty-seven letters, on an average, were delivered to each person, through the Post Office, during 1865.

The intelligence and education of a people are the passports of a country to eminence and prosperity.

Live Stock Department.

HORSE BREEDING.

BY C. L. MARTIN, BELOIT, WIS.

In selecting animals to breed from, great care should be taken that they are free from disease of any kind, or if any exist, that it can clearly be traced to an accident, and not from congenital malformation, hereditary predisposition, or natural weakness of the part. Temper, also should be considered, for it is an undoubted law of nature, that 'like begets like;' therefore breeders should be particularly careful not to breed from animals with qualifications they would not wish the animals to transmit to their progeny. The best time of the year at which to put the mare to the horse is early in June, so that the foal may be dropped in May; the weather by that time being sufficiently warm, and it allows time for the colt to become strong enough to resist the attack of the flies in summer, and the cold of the ensuing winter. I have been told, and have tried, many recipes and nostrums to insure a mare being stinted after taking the horse, but have never found any to succeed better than feeding, &c.

The mare should not be too fat, having been previously, for a week or two prepared by a little spring grass; and if a working mare, by a diminution in the quantity of grain fed; or, if in a city where grass can not be easily obtained, a bran mash given daily, which may be made by pouring boiling water on a quart or two of bran, with a handful of oats, and given when sufficiently cool; also the administration of a small dose of aloes, from one to four drachms, varying according to the size of the animal.

She then being at use may be taken to the horse, and upon her return placed in a quiet paddock or loose box, for eight or nine days, and the cooling diet continued. She should then be again tried, and if not at use, we may fairly conclude she is stinted, and may be worked or not at pleasure; requiring no particular attention until the fifth month, when she should receive a liberal allowance of grain and all her food be of the best quality—quality and quantity being what is required; for having to support both herself and fœtus, a stimulative and nutritious diet will materially assist the development of the latter; and if worked at all she should be used quietly up to the last month, when she should be turned loose in a paddock or placed in a loose box, with a succulent though nutritious diet—such as cut grass, chopped carrots, mashes, &c., and a diminution in the quantity of grain until after foaling, when it may be continued.

The mare should be allowed to run with the colt for three or four weeks, when she may be worked lightly, but the colt must be shut up, and upon no consideration be allowed to run by the side of its mother, for while the bones and sinews are soft the slightest concussion will cause ring-bones, strained tendons, curbs, and many other ailments, that the colts of this country are subject to; and which, I believe, arise chiefly from the foolish habit of allowing them to run on the hard road, and plowed ground by the side of dams, independently of the annoyance of running in people's ways, and their liability to accident.

The colt will not require any other food than the dam's milk, and what grass it can eat, until the sixth month, when it should be weaned, for the mother's sake, if she is again in foal; and also for the colt itself; for by this time not only will the milk have deteriorated in quality, but the stomach and bowels of the colt will have undergone a change, so that they will not be adapted for a milk diet, which would disarrange their natural functions, causing acid secretions, the formation of worms and other parasites, leading to an attack of inflammation, and a train of other bad symptoms, ultimately terminating in death. The colt being weaned will require a liberal supply of some kind of grain and other food—I prefer oats and good meadow hay. As with the mare, I leave the quantity to the judgment of the individual, so much is depending upon the size and temperament of the animal, and other circumstances It should also have a halter upon it every day and be led about for a few minutes; and though the lesson be ever so short, it will make the colt tractable and accustomed to being handled.

THE FIRST GRAPE GROWER.—The earliest account of the cultivation of the vine is found in Genesis IX, 20:—"And Noah began to be a husbandman, and planted a vineyard." We are not informed as to the kind or quality of the grapes he planted, but we have abundant testimony that they made good wine in which the alcholic element was amply developed. The country in which Noah resided is supposed to be Armenia, still famed for tis grapes and wine.

For the Ohio Farmer and Cultivator.

THE RIGHT SORT OF A COW.

I will give you a memorandum of the doings of my Big Cow for the past seven days, and I wish you to say if she will do to keep. I have shown her to you several times; you will doubtless remember her from her great size. She is ten years old this spring, was got by the Short Horn Bull brought here from Kentucky by the Nye Brothers. I cannot recall his name, nor the name of his breeder; was said to be thoroughbred. Her dam was a cow owned by C. L. Hoyt of Painesville, bred in Trumbull county, near Warren; was said to be by a Short Horn Bull, out of a cow which was a cross between Ayrshire and Short Horn. The dam of my cow shows both strains of blood strongly, and is an extraordinary good milker, as are all her calves. I believe she never had a bull calf. By this you see my cow is nearly three-quarters Short Horn, the balance Ayrshire. She is running in the field just east of the house in good pasture, June grass, timothy and white clover, with five other cows, two horses and 124 sheep; does not have any extra feed or care, and is milked by an Irishman. She dropped her calf on Friday, June 1st. We thought she gave a good quantity of milk, so we commenced to weigh it, with the following result:

	Morning. Lbs.	Night. Lbs.	Total. Lbs.
June 8		40	
" 9	37¾	40¾	78½
" 10	39½	42	81½
" 11	40	40	80
" 12*	40	41	81
" 13*	43½	47½	91
" 14*	42	46¼	88½
" 15	41	45	86
Total seven days			586
Average per day			83.7 Lbs.
" " Milking			41.85 "

* Had a feed of shorts these three days.

The cow is evidently very uneasy and does not give her milk readily, as her calf is with another cow meantime, and is where she can see it readily, being kept in the stable where the cow is milked. Now the question is, how much would she give if put on extra feed and given extra care? Her milk is very rich, and the cream as "yellow as gold," as says Cornie, and you know she is a competent judge. [Well we do! Ed.] By the old rule, "A pint's a pound the world round," the average is over twenty quarts to a milking! The weights given are of strained milk. Now tell us, will she do to keep? Wm. F. Green.

Painesville, June 15, 1866.

— Without going into particulars, we should say such a cow would answer for people of moderate ideas.—Ed.

TO REMOVE WARTS ON MULES.

I have had twenty years' experience in handling mules, and believe them to be the most subject to old fungus warts than any other animal; and after having thrown away lots of dollars to farriers to remove or cure them, I finally began to experiment on them myself, and having found a remedy that I do know to be good, I will give the benefit of my experience:

If the wart is not too large, that is, covering too much surface, tie a small wisp of horsehair around it for a day or two till it begins to irritate the skin. Then take a stick of caustic potash, that can be procured at any drugstore, and encircle the wart once a day for three days, and if it eats too badly, apply a little grease of any kind to check it, and your wart is soon gone. If the wart is too large to irritate the surface with horsehair, just begin with the caustic alone—it will take a little more time.—*Cor. Prairie Farmer.*

Trouble with the Cows.—If anything in regard to the fatality of cows soon after calving has appeared in your columns, I must have overlooked it. If the question has not been noticed, will you or some of your correspondents, suggest the cause and remedy? The best cows and those in the highest order are the most likely subjects. Apparently everything is right at calving, but in less than 24 hours the cow is down to rise no more. The case is now a pretty well defined case of dry murrain, and it is almost impracticable to effect a passage. Is the case dry murrain or is inflammation of certain organs the origin, and murrain only a consequence? What is the proper treatment before and at the time of calving? A few hints from you or some or your correspondents may be of great value to others as well as to G.

Jefferson Co., June 1866.

"Did any of you ever see an elephant's skin?" asked the master of an infant school. "I have!" shouted a six-year-old, at the foot of the class. "Where?" "On the elephant!" was the reply.

For the Ohio Farmer and Cultivator.

BEAUTIFY YOUR HOMES.

How little mankind enjoy this life, compared with what they might enjoy, by simply expending a little labor and care, around and within their homes; they might become paradises as far as it is possible for anything on earth to become a paradise. And another incentive to making home pleasant, is the untold influence which it has in moulding the character of the young, and they who have children cannot value their character too highly. Oh! what a duty there is for every parent to do, which, alas! too often remains undone. I need hardly hint that that duty consists in making home the pleasantest place on earth. Children and youth require pleasure and must have, it and if there is no pleasure at home, they will seek it elsewhere, and it is a lamentable truth that they too often seek it in the exciting scenes of a ball-room, the horse race, the gambling table the whiskey saloon and the scenes of other fashionable resorts, which they frequent just because they there find gay company and plenty of fun. But what is the result? It is not long that a youth leads such a life before he becomes reckless and dissipated, home is forgotten in the more exciting scenes in which he mingles, soon reputation and character are gone, next fortune and happiness go, and last, but oh! not least the soul is ruined, and ruined forever!

Oh, friends, above all else in the world, try to make *home* pleasant and attractive, do not by the repulsive and cheerless appearance in and around your homes, and your own selfish morose and sullen temper, destroy all pleasures and enjoyments, besides driving your children to misery and ruin. I repeat it, do not be so wicked and foolish, but just go to work in the right channel; surround your home with neat and tasteful yards and gardens; plant evergreens, shrubs and flowers profusely by every walk, at every door, and arrange them in picturesque and beautiful groups over the entire yard; have a cage of sweet little canaries to claim a place on the veranda and a share of your love; decorate the walls of every room with portraits and landscapes, procure a library of choice and useful books; drive every selfish and angry word or look from your home, and let true *love* rule over all, and my word for it, you will soon be surprised to see how peaceful and pleasant life is. And then those children of your's, how they will love and cling to such a home! no foolish ideas of running away will every enter their heads. And in after life, with what sweet memories will they look back upon the days spent in and around its hallowed influence! How their hearts will yearn for a home like the home of their childhood! and this yearning will lead their hearts to seek a heavenly home, which far surpasses in joy and peace the most perfect home that can be sought for on earth. Oh, yes! above all other earthly things, strive to make HOME the most pleasant, peaceful and attractive.

I. A. CONVERSE.

Darby Creek, Ohio, May, 1866.

For the Ohio Farmer and Cultivator.

A PLEA FOR SLEEP.

BY MRS. JOSEPHINE C. BATEHAM.

We are aware that some would-be wise teachers insist that though sleep is to a certain extent necessary, yet the amount is determined mainly by habit, and that all should accustom themselves to as little sleep as possible; and that in fact the higher we progress in knowledge and virtue, the less sleep we should require. It is no doubt true that persons of a highly excitable and nervous temperament seemingly need less sleep than others, yet they wear out much more rapidly—are restless, excitable, fretful—neither enjoying life as they should or permitting others to do so, they become prematurely old or die an early death—consequences not at all to be desired.

Ours, especially, is a feverish, impulsive nation.—Whether in childhood, youth or mature years, we are alway too much in a hurry to enjoy life as we should do. There is a painfully eager striving after something yet to come, the influence of which is most disastrous. Disastrous because we thus lose the enjoyment of the blessings already ours, and unfit ourselves for the enjoyment of the anticipated good, by forming such a habit, that if that is attained, it will be seized not as a good in itself, but simply as a stepping stone to something yet to be grasped. Disastrous also, because it affects the health and the spirits, till we become in-

capacitated and even disinclined to make others happy about us.

The English nation might perhaps be benefited by admonitions as to the folly and wickedness of spending time unnecessarily in sleep, but Americans need more repose—both of body and mind. They need to be induced to devote fewer hours to business and care, and more to amusements, and especially to sleep, for it is then both mind and body best regain their equilibrium.

Different constitutions require so different treatment that one cannot decide with certainty how much sleep another needs. From six to eight hours is considered by most writers as the average required by persons in health. It is worse than folly to spend more hours in sleep than nature requires, yet in our country we believe it is a more frequent error and a far more serious one, to abridge the hours of sleep too greatly. Sleep is certainly "nature's sweet restorer," and in a healthful state of the system nothing will usually so speedily restore the flagging energies after unusually severe labor, mental or physical, as an extra amount of sleep.

Children especially we think should be encouraged to sleep as many hours as they are inclined to sleep soundly, and this not only in infancy, but until they have attained their growth. They will be less likely to be precocious mentally or nervously, their physical systems will be pretty sure to have a better development, and their mental also. We know one father who insisted that his children should have no more sleep than he took, but the consequence of course was, they grew peevish and puny till this course was abandoned.

We need not add that sleep is of more value when taken in the quiet darkness of the night than at other times, and that a well ventilated room, a cool bed or mattress and thin pillows are desirable. If troubled with sleeplessness, a cool bath before retiring is invaluable.

Moss on Flower Pots.—Ladies who are fond of cultivating flowers in the house, will find great benefit to the plants by spreading a coating of moss over the earth in their flower pots. This keeps the water from evaporating, and the temperature more uniform. Tea grounds are often used for the same purpose. Where a flower pot sets in a saucer, with a hole in the bottom of the pot, put a little sand in the saucer and cover it with moss, and you have a simple and admirable arrangement.—*Ex.*

SCOLDING NEVER DOES GOOD.

In the family, in the school, in the pulpit, in the newspaper, scolding is an evil, an evil only, doing no good, but much evil, to the scolder and the scolded. It is a nuisance that not only ought to be abated, but abolished, plucked up by the roots, and driven out of every house and consigned with all other offspring of total depravity, to outer darkness and destruction.—It is the worst possible mode of improving the habits of children, and no parent who ever indulges in it, has the satisfaction of knowing that scolding benefited his family. It irritates them at the very moment when their hearts and minds should be conciliated toward good resolutions to amend. It sets them up in opposition to the wishes of their parents and fills them with aversion to what is good. There is no sense in scolding. It is a weakness and a folly as well as a sin, and a very small amount of reflection and reason would convince any rational person that it would be better to go out on the north side of the house on a bitter, windy day, and blow against a northwester than to fret and scold at children to make them good. It is breath spent in vain.

It is just as foolish in the school as in the family. A scolding teacher is not fit to be a teacher. The same qualities are needed here as in a family, to govern and improve the young. Every well-ordered house and school have their rules, and to those rules penalties are appended. Firmness and fidelity are essential to order and success. Scolding parents and teachers are like barking dogs who never bite. "I tell you now," says one of these scolders, "if you ever do that again, I'll take you in hand and give you such a thrashing as you never had." The thing is done again, and another scolding, not the thrashing, follows. In a well governed house, correction is inevitable upon transgression. It is administered in a spirit of kindness, of gentleness, of regret, that tells more powerfully than blows. "Whip me, father, but don't cry," was the heart-burst of a boy who loved the parent about to punish him for his fault. Punish the child who does wrong but do not scold him. Never scold anybody.

And the very last place into which this vice should be brought is the pulpit. To show the people their sins is a pastor's duty. To give them line upon line, precept upon precept, here a little, and sometimes a great deal, is the weekly and imperative duty of him who is set as an

overseer of the flock. But this may be done and done well without betraying a spirit that suggests the idea of scolding. Reprove, rebuke, exhort with all long-suffering and patience, but this is not scolding. Reproof may be administered with the most effect when mingled with love, and then the love rises above the reproof so as to win the love of those who are reproved. But the most effectual way to get people to church is to render the services attractive, and seek the blessing of God on services and hearer. If people are driven to church by being urged, they may be constrained by a sense of duty, but it is better for them to enjoy it as a privilege. It is better for them to say

"I have been there and still would go,
'Tis like a little heaven below,"

than to go under constraint because they have been denounced from the altar for staying away. And such is human nature, that some refuse to go under compulsion, who would have gone had they been left to themselves.—*Irenaeus in N. Y. Observer.*

THE EDUCATION OF WOMAN.

It is of no moment, as a matter of pride or perfectness in herself, whether she knows many languages or one; but it is of the utmost that she should be able to show kindness to a stranger, and to understand the sweetness of a stranger's tongue. It is of no moment to her own worth or dignity that she should be acquainted with this science or that; but it is of the highest that she should be trained in habits of accurate thought; that she should understand the meaning, the inevitableness and the loveliness of natural laws, and follow at least one part of scientific entertainment, as far as that bitter Valley of Humiliation, into which only the wisest and bravest men can descend, owning themselves forever children gathering pebbles on the boundless shore.

It is of little consequence how many positions of cities she knows, or how many dates of events or names of celebrated persons—it is not the object of education to turn a woman into a dictionary; but it is deeply necessary that she should be taught to enter with whole personality into the history she reads; to picture the passages of its vitally in her own bright imagination; to apprehend, with her fine instincts, the pathetic circumstances and dramatic relations which the historian too often only eclipses by his reasoning and disconnects by his arrangement; it is for her to trace the hidden equities of divine reward, and catch sight through darkness, of the fateful threads of woven fire (?) that connect error with its retribution.

But, chiefly of all, she is to be taught to extend the limits of her sympathy with respect to that history which is being forever determined, as the moments pass in which she draws her peaceful breath: and to the cotempory calamity which, were it rightly mourned by her, would recur no more hereafter. She is to exercise herself in imagining what would be the effects upon her mind and conduct if she were daily brought into the presence of the suffering which is not less real because shut from her sight.—*Ruskin.*

DOMESTIC CLEANLINESS.

On one occasion sickness prevailed in a family, which failed to obtain relief from any of the various remedies administered, but upon one of the panes of glass being broken, and not repaired, an immediate improvement became apparent, resulting in ultimate good health.

In a fishing town in Cornwall, England, some of the houses in the narrow streets were in such a filthy condition from the negligence of those who occupied them, that the sanitary inspector considered it necessary to require the inmates to move into an open field, many of whom were already sick of cholera; they immediately began to improve. Meanwhile the houses were cleaned out, swept, washed, and then thoroughly whitewashed; but no sooner had the families moved in, than the disease began to spread and assume a more malignant character; the people were again removed to the field, to sleep and cook and eat in the open air, when the same prompt improvement in their condition was manifested. It seemed that although the houses were cleansed, the yards and gardens around had been the recipients of offal of various kinds so long that the very earth was saturated with the elements of the disease.

Cases are recorded in standard medical books where whole families have been stricken with disease in a few days, and examination discovered that the house drains had given away, and emptied themselves partially into the well from which the family derived all its supplies of drinking and cooking water. This was also the case in two English prisons, causing within a

day or two an epidemic dysentery throughout the establishment, which immediately ceased on a supply of better water.

The difference between cleanliness and the want of it, about a house, is demonstrated in some of the model lodging houses in London, standing in the midst of unhealthful surroundings; for in these houses the number of deaths is just as many as in the immediate neighborhood.

It may be well to know what is an excess of sickness or death in any locality. In the Isle of Wight, one of the healthiest places on the globe, in a promiscuous population, for every thousand persons, fourteen died in the course of a year, from the ordinary sickness of humanity. In the model lodging houses, above referred to, about thirteen die out of a thousand annually; while there are twenty-seven deaths among the surrounding inhabitants. In some portions of the British army, where sanitary officers are scientific and conscientious men, only nine persons in a thousand died annually, and in some of the best regulated prisons in England the death rate has been reduced to five in a thousand a year, but in these last instances there are no children. In ordinary cases of soldier or prison life, in what may be called a "standing army," or barrack life, not more than twenty persons in a thousand should die in a year, because in one sense they have nothing to do but to keep their persons and habitations most perfectly clean.

In England twenty-two persons die annually out of each one thousand; in the United States twenty-four. For each person who dies twenty-eight are sick. It is estimated that each death is equivalent to one person being sick for two years. Two hundred years ago eighty persons died out of a thousand annually in London, one hundred years ago fifty, and now twenty-two showing clearly that as the intelligence of a people increases, as to the laws of health, sickness and death proportionately abate.—*Hall's Journal of Health.*

Sugar Beet in Ill.—The Illinois papers state that the Sugar Beet Company at Chatsworth have planted between five and six hundred acres of land to beets and that the machinery for manufacturing the sugar is arriving and being put up for operation this season. We should judge the long talked of question of sugar from beets in this country will soon receive a solution.

CHARMS.

Even in these late ages the horse shoe is not unfrequently seen nailed over the door of the cabin or cottage, to "charm" away misfortune, or to "keep off" disease. There are intelligent men who have carried a buckeye in their "unmentionable" pocket for years to keep off piles! Children can be found at school, any day, with little bags of brimstone attached to their necks by a string, to keep off some particular malady. There are many young gentlemen and ladies who have half a dozen charms attached to their watch chains, it being a remnant of the ancient superstition. We give a pitying smile at the mention of these absurdities, for we know them to be unavailing. But there are charms against human ills which are powerful to save from physical, mental and moral calamity!

Bearing about in one's heart the sweet memories of a mother's care and affection and fidelity, often has a resistless power for many a year after that dear mother has found a resting place in heaven, to restrain the wayward and unsettled from rushing into the ways of wicked and abandoned men. John Randolph, of Roanoke, used to repeat in his later days, and always with quivering lips, that while he was quite a young man, in Paris, he was repeatedly on the point of plunging recklessly into the French infidelity which was so prevalent during the terrible revolution of the time; but was as often restrained by the remembrance of that far-distant time, when yet in his infancy, his mother used to have him bend his knees before her, and, with his little hands in hers, taught him in sweet but tremulous tones to say nightly, "Our Father who art in heaven."

A Scotch mother, when her son, a lad of sixteen, was just about leaving for America, and she had no hope that she should meet him again, said to him: "Promise me, my son, that you will always respect the Sabbath day." "I will," said he. His first employer in New York dismissed him because he refused to work on Sunday. But he soon found other employment, and is now a very rich man, an exemplary Christian, and an influential citizen.

Tens of thousands are there in this wide land who, by the charm of the temperance pledge, have gone out into the world, singly and alone, to battle with its snares, and temptations, and sin; they have been surrounded at every step by the great tempter, with the allurements of passion and pride; of sensual gratifications and

of corrupting associations; but keeping their eye steadily fixed on the beautiful pledge to "touch not, taste not" the accursed thing, they have bravely come off conquerors, and to-day stand in their might the pillars of society.—Young gentlemen and young ladies, too, make it your ambition to bear about you always the charm of the pledge of reverence for the Sabbath day, the holy memories of a sainted mother's religious teachings, and you will pass safely to a ripe old age of happiness and health.—*Hall's Journal of Health.*

WEIGHT OF PEOPLE.

We read in *All the Year Round* what is the average weight of man? At what age does he attain his greatest weight? How much heavier are men than women? What would be the weight of fat people, and what of very fat people? M. Quetelet, of Brussels, some years ago, deemed such questions quite within the scope of his extensive series of researches on man.—He got hold of everybody he could, everywhere, and weighed them all. He weighed the babies, he weighed the boys and girls, he weighed the youths and maidens, he weighed men and women, he weighed collegians, soldiers, factory people, pensioners—and as he had no particular theory to disturb his facts, he honestly set down such results as he met with. All the infants in the Foundling Hospital at Brussels for a considerable period were weighed and the results were compared with others obtained from similar establishments in Moscow and Paris. The average returns show that a citizen of the world, on the first day of his appearance in public, weighs about six pounds and a half—a boy baby a little more, a girl baby a little less. Some very modest babies hardly turn the scale with two pounds and a half, while other pretentious youngsters boast of eleven pounds. M. Quetelet grouped his thousands of people according to ages, and found that the young men of twenty averaged one hundred and forty-three pounds each, while the young women of twenty have an average of one hundred and twenty-nine pounds. His men reached their heaviest bulk at thirty-five, when their average weight was one hundred and fifty-two pounds, but the women slowly fattened on until fifty, when their average was one hundred and thirty-nine pounds. Men and women together, the weight at full growth averaged exactly one hundred and forty pounds.

FIELD SPORTS FOR WOMEN.

A French sporting paper says: It is known with what ardor, the ladies of England abandon to such exercises as devolop the physique. They have already appropriated many masculine sports, but it was scarcely to be supposed that they would have adopted the violent play of cricket; but last week they played a game at Pinchdean, between eleven married ladies and eleven unmarried ones, the latter gaining by 42 points."

Throughout Europe the ladies exercise in the open air. On the continent they dance, drive, and ride. In the British Isles, they fish, shoot, hunt, play cricket and other out-door games. It would be a pleasing subject to portray the ladies of the different nations at their sports and pastimes. Their passion on the continent of Europe and in the eastern cities of America seems to be the dance; while English ladies do not excel in dancing, and prefer field sports and display days. Professor Wilson always took his wife with him on fishing excursions, and he said that she walked with him sometimes thirty miles a day.

PET FISH.—There is a paragraph going the rounds with this title, in which a little girl has taught some fish in a pond to feed upon bread crumbs with which she approaches them upon a plank, and that they even nibble at her fingers. This, to all familiar with the habits of certain varieties of fish, is nothing new or strange In our own pond several varieties are fed from the hand and have a lively contest for the bread crumbs offered them. Among those which are most friendly are the gold fish, sun fish, minnows, and even catfish. Occasionally a white perch will make its appearance, a little shy, and taking its morsel will rapidly disappear. Last autumn, while thus amusing ourselves, a white catfish, from eleven to twelve inches in length, shot straight up from the bottom of the pond, seized with its capacious jaws, the whole piece of bread, and shot away again and was not seen afterwards. Fish can distinguish strangers readily, and are even shy of those they are accustomed to see when dressed differently. Treated kindly they will playfully nibble at the fingers, and run upon the hand and, when the proper method is used, can be lifted out of the water. —*Ger. Telegraph.*

Over-fed fowls will not lay eggs.

For the Ohio Farmer and Cultivator.

WASTE PLACES.

Just out of the window, in the midst of the city, is a steep hill side, so steep—well, if you was a barrel at the top of it, there would be but very little difficulty in rolling down unless, indeed your passage was obstructed by the small ravines which traverse it in all directions.

During the winter, many thoughtless persons would look out of this window and interrogate: "What's that ground there?"—and I equally as thoughtless, would answer, "Nothing, I suppose." Before the close of the winter, on some mild days, the boys would be seen racing down its side or rolling over the waste straw that had collected there, seeming to enjoy the pastime hugely, and once in a while the foot of it was visited by sundry venturesome ducks or geese who sallied out on an exploring expedition after water; further than that it seemed an idle, useless patch of ground.

But one spring morning, upon peering out of the window, I discovered that something had happened to a part of the ground nearest a high brick wall; it had been spaded and raked, and long, narrow ridges denoted that something had been planted by some enterprising individual. Very soon little shoots of green parted the mold and came forth to meet the sunshine, and that part of the soil assumed quite a cheerful aspect.

The ravines or ditches still threaded the remainder, and that, though I, can surely be put to no use—that will have to lie idle, any way; the green sprouts denoted that with favorable weather some one would have a nice crop of potatoes, for they were well tended and no weed had dared to pitch his tent upon the borders of that potato-land.

Some time after this, one afternon I spied a man with a wheelbarrow full of rich soil, trying to roll it along over the marshy part of the ground. Thinks I, "you'll have to give that up, my good man," for the ground was so soft and uneven that he could scarcely navigate; but *he* didn't think he would have to give it up—not at all—he pushed and tugged, until finally the vehicle rolled triumphantly along and over the ravines even, on a bridge consisting of a couple of planks which reached from the main land to the little islands of solid ground surrounded by them. Of course I had to give up now; the contrivance and perseverance of this simple laborer exhibited what is deficient in many a brain that would consider itself too large to bestow upon him a passing thought.

This reminds one of the farmers of our land, who have whole acres of idle ground, of no use to themselves or any one else. If they have neither the time nor inclination to till these themselves and make them profitable, it would be an excellent plan to give some poor person the privilege of working them and making what he could off from them. Why, some of these poor city-starved beings would imagine they were almost getting a glimpse of Elysium, if they could stretch their limbs over a tenth part of the waste and good-for nothing lands of many farmers, and these farmers would get just so much off their hands that they are unable to take care off.

This formerly barren hill-side is now growing steadily and beautifully green, and the dirt around the once ugly looking ditches is being worked so fine and soft that one can almost imagine they are only rivers winding through and necessary to the growth of the fertile fields.

LIMITED OBSERVATION.

SERMONS.

The custom of taking a text as the basis of a sermon is said to have originated about the time of Ezra, who, accompanied by several Levites in a public congregation of men and women, ascended the pulpit, opened the book of law, and after addressing a prayer to the Deity, to which the people said "Amen," read the law of God distinctly, gave the sense and caused them to understand the reading. Previous to the time of Ezra (457 years B. C.) the patriarchs delivered in public assemblies either prophesies or moral instruction for the edification of the people; and it was not until the return of the Jews from the Babylonian captivity, during which time they had almost lost the language in which the Pentateuch was written, that it became necessary to explain as well as to read the Scriptures to them— a practice adopted by Ezra, and since universally followed. In later times, (Acts xv: 31,) the Book of Moses was read in the synagogue every Sabbath day. To this habit our Saviour conformed, and in the synagogue one Sabbath day, read a passage from the prophet Isaiah, then closing the book, returned it to the priest, and preached from the text.

THE LITTLE CHILDREN.

Children grow up—nothing on earth grows so fast as children. It was but yesterday, and that lad was playing with tops, a buoyant boy. He is a man and gone now! There is no more childhood for him or for us. Life has claimed him. When a beginning is made, it is like a raveling stocking, stitch by stitch gives way till all are gone. The house has not a child in it. There is no more noise in the hall—boys rushing in pell-mell; it is very orderly now. There are no more skates or sleds, bats, balls or strings left scattered about. Things are neat enough now.

There is no delay of breakfast for sleepy folks; there is no longer any task before you lie down of looking after anybody, and tucking up the bed-clothes. There are no disputes to settle, nobody to get off to school, no complaints, no importunities for impossible things, no rips to mend, no fingers to tie up, no faces to be washed, or collars to be arranged! There was never such peace in the house! It would sound like music to have some feet clatter down the front stairs! O for some children's noise!

What used to ail us that we were hushing their loud laugh, checking their noisy frolic, and reproving their slamming and banging doors? We wish our neighbors would only lend us an urchin or two to make a little noise in these premises. A home without children! It is like a lantern and no candle; a garden and no flowers; a vine and no grapes; a brook and no water gurgling and rushing in its channel. We want to be tired, to be vexed, to be run over, to hear child-life at work with all its varieties.

During the secular days, this is enough marked. But it is Sunday that puts our homes to the proof. That is the Christian family day.—The intervals of public worship are long spaces of peace. The family seems made up on that day. The children are at home. You can lay your hands on their heads. They seem to recognize the greater and lesser love—to God and to friends. The house is peaceful, but not still. There is a low melodious trill of children in it. But Sunday comes too still now. There is a silence that aches in the ear. There is too much room at the table, too much at the hearth. The bedrooms are a world too orderly. There is too much leisure and too little care.

Alas! what mean these things? Is somebody growing old? Are these signs and tokens? Is life waning?—*Henry Ward Beecher.*

The Poultry Department.

For the Ohio Farmer and Cultivator.

DOMESTIC POULTRY.

SILKY, RUMPLED, FRIZZLED, AND OTHER FOWLS.

None of the above fowls are considered valuable no way more than they are an odd and by some termed a fancy fowl. They deserve the attention of the naturalist more than to have a conspicuous place in the poultry yard. They are not considered established breeds, but accidental varieties, that now and then break out in many yards. It is true the Rumpkin and Frizzled fowls are odd looking, but by no means handsome or fancy; on the other hand they are horrid looking, and only mar a well arranged poultry yard; but the Silky or Hairy fowls are worth the attention of those who wish to combine an odd and fancy fowl. I have a a pair of very choice specimens which I esteem very much, merely for fancy and not for profit. They are by no means fit for the table, as the description will show—pretty good layers. The other odd feathered fowls are about as good as common fowls for eggs and the table. A description of each kind will not be out of place.

The Silky fowl I possess is white in plumage with blue-black skin, legs, feet, bill, wattles and head, said to be very dark, even to their entire flesh and bones. From this they are termed "Negro Fowl." The feathers have their web separated from the point of their junction with the shaft, so that their covering seems of hair, rather than that which is ordinarily allotted to birds. The tail in good specimens should resemble fine gauze, for here their texture is closer than on any other part of the body. The tail itself is short, but not Shanghai-like; a few short sickle feathers in the cock, the hen a short drooping tail, and not upright like other fowls. Some are said to have a well developed sickle tail and a well shaped rose comb. The comb of mine is a depressed rose shaped, but not scarlet in color, blue more or less. My hen is heavily feathered on legs and toes, but the cock has less, is short-legged, size middle way between an ordinary sized fowl and a bantam. The crow and cackle not unlike that of the latter. The cock is very noisy and continually cackling or warning the hens of danger, and all the time he is fooling with their better sense. Some are pea-combed, others single-combed, according to authors, but the rose-

combed are considered the best. The ear lobe is white, tinged with blue, showing an odd contrasted head in color.

These fowls are not all of one color, though they differ in plumage as many other varieties do. Some are a dingy brown, others yellow; the latter spoken of by writers as a distinct variety. Bement says "whatever the color of plumage, they should be negro all over when divested of feathers," and adds that "the legs of all are not always feathered;" but all I ever saw were feathered more or less, similar to the booted Bantams.

Some writers term this variety a distinct species. Their origin is said to be from China and Calcutta; they seem to be from a warm climate and so intended, for they are tender and cannot stand snow and cold rains, as their plumage will take all the water like a rag, and do not shed wet like common fowls.

The Rumpkin fowl is considered by many writers a species, as it was found wild in the Ceylon forests, and termed the "cock of the woods." It is termed by the most of authors the "Persian Cock," having strong proofs of its being a native of Persia. Dixon says it is similar to our common fowls, only possessing no tail. They are of all colors, black, white and intermixtures; combs double and single. Same size as ordinary fowls. The full history of these fowls might be interesting to your readers, but I will not take up the columns of the *Farmer* on fowls no ways worthy of practical use.

Bement speaks of the Frizzled and Crisp-feathered fowls as more curious than useful. Said to be a native of Japan; all writers agree that it is from southern and eastern Asia, India, Sumatra, Java, Japan and Pacific Islands. It is often met with in many parts of this country among common fowls—how they came here cannot be found out. Martin says it is a distinct variety, and not a species as some try to term them. Some writers call them "French fowls,"—the reason no one knows. It takes its name of Frizzled from the feathers with exception of tail, which is turned or curled backwards, giving the appearance, as has been facetiously remarked, of having been "drawn through a knot-hole." The climate and weather affects them like the Silky fowls. Same size as common dunghili; not as good layers; color various, legs blue, ear-lobe white, comb various shapes, bill peculiarly hooked; good table fowls although small, but no variety to choose or depend on.

The variety termed Crisp-feathered, are not unlike the Frizzled, only they are a Poland, and have an upright crest. They are identical in description except the crest.

The "Creepers" and "Dwarf Fowls" are accidents, extremely short legged, larger size than Bantams. They are only oddities that now and then spring up. Among these there is one valuable popular variety termed "Cochin Chinas."

J. C. Cox.

DISEASES OF FOWLS.

Among the diseases of fowls, nothing is so fatal to the bird or so vexatious to the fancier as *roup*. Very close observation and experience have taught me that the first premonitory symptom is a peculiar breathing. The fowl appears in perfect health for the time, but it will be seen that the skin hanging from the lower beak, and to which the wattle is attached, is inflated and emptied at every breath; such a bird should always be removed.

The disease may be caused, first, by cold damp weather and easterly winds, when fowls of weakly habit and bad constitution will sicken of it, but healthy, strong birds will not.—Again, if by any accidental cause they are long without food and water, and then have an unlimited quantity of drink and whole corn given them, they gorge themselves, and ill health is the consequence; but confinement is the chief cause, and above all being shut up in tainted coops. Nothing is so difficult as to keep a fowl healthy in confinement in large cities; two days will often suffice to change the bright, bold cock into the spiritless, drooping, roupy fowl, carrying contagion wherever he goes.

But all roup does not come from cities; often in the spring of the year the cocks fight, and it is necessary to take one away; search is made for something to put him in, and a rabbit-hutch or open basket is found, wherein he is confined and often irregularly supplied with food, till pity for his altered condition causes him to be let out; but he has become roupy, and the whole yard suffers. I dwell at length on this, because of all disorders it is the worst, and because although a cure may seem to be effected, yet at moulting or any time when out of condition, the fowl will be more or less affected by it again.

One thing is here deserving of notice. The

result of the attention paid to poultry of late years has been to improve the health and constitution of the birds. Roup is not nearly so common as it was, nor so difficult of cure. It went on unnoticed formerly, till it had become chronic, and it would not be difficult to name yards that now have a good reputation, but which a few years since never had a healthy fowl. It is now treated at the outset, if seen, but the improved management in most places renders it of rare occurrence. The cold which precedes it may often be cured by feeding twice a day with crusts of stale bread soaked in strong ale. The suspected fowl should be removed directly, and if there be plenty without it, and if it be not of any breed that makes its preservation a matter of moment, it should be killed. There is very little doubt of a cure if taken in the first stage, by administering small doses of jalap and rue—say five grains of each mixed together at one dose. But if the eyelids be swollen, the nostrils closed, the breathing difficult and the discharge fetid and continual, it will be a long time before the bird is well. In this stage it may be termed the consumption of fowls, and with them, as in human beings, most cases are beyond cure. However I may differ from some eminent and talented amateurs, I do not hesitate to say it is contagious in a high degree. Where fowls are wasting without any apparent disorder, a teaspoonful of cod-liver oil per day will often be a most efficacious remedy.

I will next mention a disease common to chickens at an early age—I mean the *gapes*. These are caused by numerous small worms in the throat. The best way I know of getting rid of them is to take a hen's tail-feather, strip it to within an inch of the end, put it down the chicken's throat, twist it round sharply several times, and draw it quickly out; the worms will be found entangled in the feathers. When this is not effectual in removing them, if the tip of the feather be dipped in turpentine it will kill them, but it must be put down the windpipe, not the gullet. I have always thought these were got from impure water, and I have been informed by a gentleman who inquired closely into these things, that having placed some of the worms taken from the throat of a chicken and some from the bottom of a water-butt where rain had remained a long time, in a microscope, he found them identical. I have never met with gapes where fowls had a running stream to water at. Camphor is perhaps the best cure there is for gapes, and if some is constantly kept in the water they drink, they take it readily. This has been most successful.—There is also another description of gapes, arising probably from internal fever; I have found meal mixed with salts and milk a good remedy. They are sometimes caused by a hard substance at the tip of the tongue; in this case remove it sharply with the thumb-nail and let it bleed freely. A gentleman mentioned this to me who met with it in an old French writer on poultry. Sometimes a fowl will droop suddenly after being in perfect health; if caught directly it will be found it has eaten something that has hardened in the crop; pour plenty of warm water down the throat, and loosen the food till it is soft, then give a tablespoonful of castor oil, or about as much jalap as will lay on a ten cent piece, mixed in butter; make a pill of it and slide it into the crop; the fowl will be well in the morning.

Cayenne pepper or chalk, or both mixed with meal are the best remedy for scouring.—*Cor. Wilkes' Spirit.*

HOW TO JUDGE THE WEATHER.

The colors of the sky at different times are a wonderful guidance. Not only does a clear sunset presage fair weather, but there are other tints which speak with clearness and accuracy. A bright yellow in the evening indicates wind; a pale yellow wet; a neutral gray color constitutes a favorable sign in the evening—an unfavorable one in the morning. The clouds are full of meaning in themselves. If they are soft, undefined and feathery, the weather will be fine; if the edges are hard, sharp and definite, it will be foul. Generally speaking, any deep unusual hues betoken wind and rain; while more quiet and delicate tints bespeak fair weather. Simple as these maxims are, the British Board of Trade has thought fit to publish them for the use of sea-faring men.

Bed Bugs.—If any of your readers need a sure remedy for bed-bugs, they can have mine, and cleanse the house of this troublesome vermin, with very little expense. They have only to wash with salt and water, filling the cracks where they frequent with salt, and you may look in vain for them. Salt seems inimical to bed-bugs, and they will not trail through it.—I think it preferable to *all* "ointments," and the buyer requires no certificte as to its genuineness.—*Mrs. L. C. C.*

Scientific Department.

For the Ohio Farmer and Cultivator.

BAROMETERS FOR FARMERS.

I notice in the *Farmer* of May 26th, an account of a talk at the Farmers' Club of New York about barometers, and I confess that I I am a little disappointed that that Club should come to the conclusion and make the statement that barometers were of no practical value to farmers. I have from time to time, read with a great deal of interest the debates of that Club, and have a very high opinion of the intelligence and practical good sense of many of the members of that association; but I must say that my conclusions with reference to the practical value of the barometer to the farmer, are very widely different from this, and as I am not interested either in the manufacture or sale of this instrument, I feel at liberty to say a few words in its favor.

I had long heard of the barometer—how it foretold to the mariner the approach of storms, and how useful and necessary it was to the farmer, and especially so in haying and harvesting, and I being something of a farmer, and often having many hands in my employ, at that season of the year, and being already supplied with a reaping and mowing machine, a horse rake, and unloading fork, thought if I could then have the means of foretelling the weather a few hours or days previous to its change, I would be pretty well fixed. So to that end I obtained a barometer, (one of Wilder's manufacture) and after five years experience with it, and observing it closely, I cannot, with Adrian Bergan, the Long Island farmer, say, "I believe depending on a barometer was all stuff." Neither can I with Solon Robinson, state it as my firm, "honest belief, that a barometer is of no practical utility to a farmer," but on the contrary, give it as my honest belief, that a barometer is of practical utility to a farmer. I feel very sure that my barometer has many times, in a single year, been worth far more to me than the cost of it.

I have no doubt from a single glance at it in the early part of the day, any time, I can tell whether we may have fair weather or foul that day, or perhaps a day or two ahead. The falling of the mercury usually, and perhaps nearly always, indicates foul weather. Now it may not be rain, or it may not always rain when the mercury falls; but it will not be fair weather while the mercury is down. I take it that the falling of the mercury usually indicates an approaching state of the atmosphere usual when it rains, and without that state of the atmosphere we cannot have rain. True, it may not rain, a shifting of the current of winds may drive it away, and as the change take place in the atmosphere, it is indicated immediately by the barometer. And now because it does so or because it did not rain, notwithstanding the mercury fell, is it fair to conclude that it did not indicate the true state of the atmosphere? I think not, by any means. By the fall it indicated fair weather, and I will warrant if the mercury fell much the weather was not fair.

I have many times said, when inquired of whether the barometer was a good indicator of the weather or not, that I would make a present of mine to any person who would watch it closely, if he ever found that it rained, and that instrument did not faithfully and truly indicate it before hand at least a few hours, and generally from one to two days; and I make the same offer still to any person.

As the fall of the mercury indicates foul weather, so in like manner the rising of it indicates fair weather, and I have never yet seen fair weather and the mercury low. Neither have I seen foul weather and the mercury high. And as the falling of the mercury indicates foul weather, so the rising indicates the approach of good and fair weather, and though we may be in the midst of a storm, the close of it will be invariably indicated several hours before it is over by the rising of the mercury. I have never known this to fail.

Now these being facts, as attested by my own experience and observation, permit me for a moment to inquire into the practical value of this instrument to the farmer, especially. We have no class of people in the country more interested in the weather than the farmer, and especially in the haying and harvesting season. He often has a great deal at stake, and much depending upon the weather, and if he has something to aid him in foretelling the weather, besides the sky, the clouds and the wind, so much the better for him; and the barometer is the only instrument within my knowledge that will furnish that aid, or that will so much aid him. Mr. Bartlett, in that talk upon the subject of barometers, suggested as a practical test of their value, that farmers should communicate

the result of their observations, whether they were able by their use to foretell the state of the weather days or hours in advance. I think the suggestion a good one, and will state as the result of my observation for the last five years, that I can, to some extent at least, and with very great certainty, foretell the probable state of the weather days and hours in advance.

Then as to its practical utility to a farmer in haying or harvesting, if I were ready to begin to mow, and the mercury in the barometer had fallen within the previous ten hours a half inch or perhaps an inch, and was gradually settling lower, I would not start my machine, for I would surely expect a storm: but if after having so settled, and perhaps rained some, it should commence rising, I would immediately take courage, notwithstanding the clouds might look lowering and dark, and if the mercury continued to rise, would start my machine, and by the time it cleared off I would be ready to make hay. I have by observing this rule, run my machine a good many days, while my neighbor without a barometer was laying still to have it clear off. So also, if the mercury stands high, I have the assurance of good weather, but if it begins to fall, I at once begin to cast about me and secure everything exposed, if possible, and usually we have ample time to do it, if we heed the warning.

As a general thing, my experience has been this, that the mercury would begin to fall, two to three days before it would rain, and especially will this be the case if the weather has been steady and not changeable and so in like manner it may be two to three days after it begins to rain before it comes to completely settled and fair weather. When this is the case, we can govern ourselves accordingly, and generally be prepared for the state of the weather indicated. I say as a general thing, the mercury rises and falls in this way, remaining at the point indicated until the change begins to approach, and when this is the case it is very easy to foretell the weather.

But again, sometimes we have weather when the mercury is neither high nor low, but stands about medium. Such weather, perhaps, might be called foul, still it don't rain, likely, and yet perhaps it is poor hay weather. Yet hay cut in such weather, if it does not rain, will cure by and by. Now I will admit that that is a very uncertain state of the atmosphere, and if it should continue a week or so, it would not be good policy to lie still, for by the time good weather has arrived, the haying season might be over.

But my experience with the barometer in that kind of weather has been this, that although the mercury does not rise to good weather point, still the fall from the point at which it stood is an indication of a storm and ought to be heeded, and a rise again an indication of fairer weather; and this rise or fall will indicate as surely from any given point as it does from the highest or lowest point. In judging or foretelling the weather; we should be governed entirely by the moving of the mercury, the rising always indicating better weather, and the falling a worse state of the weather.—Many barometers have the words, fair, cloudy, rain, &c., engraved upon the dial, but these will scarcely ever be found to be correct, and are of but little practical use or help. Besides, the mercury in the same barometer, placed in a certain location will stand higher or lower in a given place than at another, varying according to the elevation of the location.

As to the utility of the barometer to the farmer, however others may feel, I am compelled to say that I have felt paid for my barometer a great many times, when I have looked at it in the morning and exclaimed with almost unerring certainty, we are good for one more day at least of fair or good weather, and I have shaped all my plans accordingly for the day. It is a well settled fact from my own observation that the mercury in a good barometer will invariably stand at or near to a certain point in all good, fair, settled weather, summer and winter

It is also a well settled fact, that so long as that state of the atmosphere exists it cannot and will not rain or storm, and of course the atmosphere must change before it can. It is also a well settled fact, that as soon as that change begins to take place, and long before the human eye can discover it by any other means known to man, it will be indicated by the barometer and frequently days before the storm comes; and the indications from storm or foul weather to fair are equally as certain.

These being facts, how can the barometer fail of being of practical importance to the farmer. I will admit at once, that if a farmer or any other person hangs up his barometer and goes to it only occasionally, and then is governed in his opinion of the future of the weather by the words, perhaps on the dial, that he will not get information always to be relied upon.

But let him go to it in the morning and set it, and note whether it is high or low, and then look at it again by and by, and note whether it is rising or falling. If it is pretty well up and remains stationary, he may expect a continuation, for the time being, of about the kind of weather he then has, but if it is rising he may be sure of good weather; but if it is sinking beware; if it is low and rising, let him take courage, but if still sinking, look out for a storm.

Is not a knowledge of these facts of great practical utility to the farmer? Then to my fellow farmers I say, if you have a barometer look at it and study it and say whether these things are not so. If you have not got one, go and get one and study it for yourself, and if you shall then think it is of no practical utility to you, tell me so. As a farmer I say my outfit is not complete without a barometer.

WM. M. CUNNINGHAM.

Akron, May 28th, 1866.

EATING WHEN EXHAUSTED.

When the strength or nerve power is already worn out, or used up, the digestion of food only makes a fresh demand upon it, and if it be unable to meet the demand, the food is only a burden, producing mischief. Our bodies have been compared to a steam engine, the food being the fuel, and the steam produced, the nerve power. The analogy holds good to a certain extent. If when the steam is low because the fires are low, you pile in too fast a quantity of coal, you put out your fire, and if you have depended upon steam power to fan your fires, that is also extinguished.

Beyond this the comparison fails. You may clear out your furnaces and begin again, but in the body the consequences of this overloading are dangerous and sometimes fatal. No cause of cholera is more common than eating freely when in an exhausted state.

The rule should be to rest for a time, and take some simple refreshment, a cup or a part of a cup of tea, a little broth, or even a piece of bread, anything simple and in small amount, just to stimulate the stomach slightly, and begin to restore its powers. After rest, a moderate meal will be refreshing and safe.

A traveler in the desert, the wild steppes of Central Asia, writes: "On the encampment of the caravan, the travelers sit with their tea cups in their hands, and eagerly sip the costly beverage. It is nothing more than a greenish warm water, innocent of sugar; but human art has invented no beverage which is so grateful, so refreshing in the desert as this unpretending drink. After the tea has restored their strength, the caravan becomes gradually busier and noisier." And then the food is prepared and eaten.

To those who have not the means of preparing tea, (though we hope they are few,) a few tea leaves held in the mouth, prove most refreshing, as many of our soldiers found in their long marches, when they could not stop to make tea or coffee. There are those who advocate stimulants for this state of fatigue and exhaustion, but after the statements of travelers in all climates from the Arctic region to the equator, we are not inclined to the alcoholic theory.—Testimony is against it, except, perhaps, according to the Scripture rule: "Give strong drink to him that is ready to perish."

Never eat a full meal when you are exhausted. Take first a small quantity of anything simple which may be at hand, and *rest*. Then after a time proper food will be a blessing, not a burden. The fires will burn, the steam will be up, and you can go on your way safely.

It is not amiss in this connection to say, that children would avoid many a feverish night, and many an attack of disease, if mothers would follow this rule.—*Observer.*

SKIM MILK CHEESE.—In making skim cheese the milk is set at 82 degrees; the highest heat at 96 to 98 degrees, and three pounds of salt to 100 lbs. of curd. The curd is usually pressed in 16 inch hoops from 4 to 6 inches high. These are less rich than those made from pure milk, but deemed more healthful as food by many. In making cheese from pure milk the temperature should be generally 2 or 3 degrees lower, though some make no distinction in temperature in consequence of the quality of the milk. A clean cloth is then put around the cheese, when it is turned over and again subjected to the action of the cheese press. It is left thus till the following day, when it is turned two or three times and subjected to such pressure as is deemed requisite to impart the necessary consistency and dryness. Three days is about the usual time devoted to the process till the cheese are transferred to the store room, where they are frequently turned and anointed with melted butter. Cheese require much attention as they are subject to cracking, and if not attended to, will soon become infested with a lively popula-population.—*Willard.*

The Apiary Department.

ABOUT BEE HIVES.

BY ELLEN S. TUPPER, IOWA.

Many forms of these hives have been made and introduced, and they are as various in pattern as their inventors are numerous. Whether any or all of them are infringements of Mr. Langstroth's patent, it is not my province to decide, nor am I pecuniarily interested in any of them.

I have no hesitation in saying that some form of movable comb is absolutely necessary to the intelligent care of bees, and yet I would not be understood in recommending them as endorsing the various "traps" which in many hives are complicated with them.

You need no slides or hinges or moth traps or non-swarmers or ventilators; these are all useless and many of them injurious to the bees. A plain box, with frames capable of holding about 2,000 square inches of comb, well constructed of sensoned lumber, with no nook or hole where a worm can crawl and a bee not be able to follow, is all that is really necessary. Any amount of extra paint and finish which the owner desires may be added, but they are to gratify his taste not to aid the bees.

The shape of the hive is still undecided by practical bee keepers. I use frames thirteen inches in length, ten inches deep and my hives contain ten of them. This gives me a shallow hive, which with a piazza at one end, has room on the top for eight six pound boxes. These can be raised partly full, and eight more under them, thus securing ample room, easy of access to the bees, where the heat of the hive accumulates to facilitate the working of the wax. This abundant room for the storage of honey on the top, I find to be all important in any hive.

When bees are to be wintered in a cellar or house, I think this form as good as possible, but if obliged to winter them on their summer stands, I should use a taller hive.

Bees store honey near the top of their hive, and in winter cluster below their stores. The heat of the whole ascends among the stores, and the honey is thus kept free from frost, so that they can reach it at any time. In the shallow form the stores are always on one side or the other of the cluster, and if wintered out of doors bees are apt to be lost in prolonged cold weather in passing over the frosty comb for food. I have heard of colonies freezing in this way.

If bees cannot be protected in winter the hive may be made twelve inches square by fourteen high, but this shape does not afford as good accommodations in the right place, nor are the frames of this size as convenient to handle; much greater care is also needed to secure straight comb.

Whatever form of hive is used, if many bees are kept, it is very important that all should be alike. Every frame and box and honey board should fit every hive. The form to be used should be decided on deliberately and no changes made. It is only when one has ten or a dozen colonies in hives, all alike, that he begins to realize the advantages of them.

The most perfect form of hive can never do more than aid their owner in giving his bees the necessary care; and yet many purchase a movable comb hive and right, and put their bees into it, thinking that they have done all that is necessary. I have been asked to examine bees that had been in the hive two seasons without ever having been examined or a frame taken out. Such people need not expect "luck" with their bees. In this, as in anything else, the one who does the right thing at the right time is the "lucky" one.—*Prairie Farmer.*

WATERING BEES.

The importance of supplying bees with water should be better understood. It is a fact that during the working season, bees require a great quantity of water, and that its proximity to the apiary has much to do with their prosperity. When the hives are located some distance from a natural supply of water, it should be furnished them artificially. It makes a vast difference in the prosperity of a swarm between having water within a few feet of the hive, or half a mile distant. A bee will not descend the sides of a pail, tub, barrel or any other similar vessel to obtain water, but are found sucking it from mossy places, or from mud on the margin of streams. From this fact apiarians in supplying water artificially, should take a hint. We have practiced the following plan and believe there is none better. Take a tub, trough, or cask, fill it or nearly so, with water, and spread a coarse, loose piece of canvass on the water and secure the edges, so it will rest or float upon the surface. Upon this the bees will light and readily suck up all

the water they wish without danger of being blown into the water and drowned. A visit at any time of day when the bees are at work, to the apiary supplied with such accommodations for watering, will convince the observer that water and its proximity is essential to their prosperity.—*Iowa Homestead.*

For the Ohio Farmer and Cultivator.

SOMETHING ABOUT WORK.

BY J. FLETCHER GREENE.

From the time that God said, "Man shall by the sweat of his brow earn his bread," down to the present, man's lot has been one of unceasing toil. Indeed, he is so constituted that he enjoys this life in full fruition only when fulfilling the design of his Creator.

Labor is a heaven-given boon, kindly granted to fit man for enjoyment and usefulness here and preparing him to "live out the measure of his days" in thus providing for his own wants and those dependent upon him, scattering abroad his acts of kindness and lending a willing hand to aid a fellow man in life's great work. We need not stop now to prove the divine origin of labor, nor viewed in the above light, its practical utility and benefit to the human race; nor need we inquire as to its expediency when applied to man's higher nature, for it has been amply shown to be equally advantageous when applied to all his moral and intellectual powers. It is sufficient for us to know that in no other way can we hope to realize the happiness which is the guerdon of well doing. Taking these few thoughts as prelim'nary, we would add that a farmer's life is preeminently calculated in its nature and surroundings, to plant within the human breast a desire and love for true, manly, heroic effort. Here are called into use all the physical organs in a thousand different ways, each becoming strengthened, matured and perfected by constant exercise and use. Here, too, by habitual communing with nature in all her varied and multiplied forms, the mind becomes whetted and keen, susceptible of lasting impressions and stored with a rich fountain of wisdom. What is so invigorating as the beautiful fertile fields, and woodlands and bracing air of the country?

We do not wonder that so many, the majority we may say, of the truly great and good received their first lessons of true excellence, which showed so brightly in later years, amid the rural scenes of home, in their early agricultural pursuits. Hermetically closed as the mind is to all the vanities and follies of city life, isolated, too, as he is from the peculiar temptations incident to the more densely populated localities, the farmer—noble son of toil—has emphatically all the capabilities of living an honored, honest and useful life. We should remember, however, that the mere act of labor has no inherent virtue for good to the possessor unless impelled by some governing motive or actuated by a desire to accomplish some hoped-for result. We should always sedulously strive to "set our minds high," and then put forth every available effort to attain unto it.

"Order is heaven's first law," and system should be inseparably stamped upon everything we do. We, who are farmers, understand full well the almost vital importance of this latter requisite. Our work should be carefully laid out, our calculations be as liberal for the future as we have been successful in the past, and then we may confidently go forward. Those who calculate thus may reasonably expect to realize in the same proportion; while those who lay out work on a smaller scale should expect to reap only in a smaller ratio. But then when too large calculations are made, we are very likely to overtax our physical energies. We should carefully guard against this latter evil. We can gain riches, honor, usefulness without, and then enjoy them without being weighed down with aches and pains, the result of a broken down physical frame. True, old age will creep upon us in a silent way, if we are never so prudent. We may not always be young and fair with beautiful forms. The gray locks and wrinkled face will surely come upon us as we advance in years. These in old age are "honorable scars," the effects of a life of battles with the ills to which flesh is heir. But to see these in the young or middle-aged betokens over-work and irregularity. Work moderately and systematically; this should be our motto whether it pertains to our body or mind. This will make it easy, delightful and profitable. Farmers as a class usually find enough to do to keep their time constantly occupied. There is great danger of our doing too much. Better it is for us to husband our strength and do well if we do not accomplish so much. Old age will speed only too rapidly, without inviting his premature appearance by any overt act of ours. The organs of thought and action, weaned by

excessive labor, need full time for rest and recuperation. Recreation, frequent, regular recreation is needed by the human system. Farmers, do not allow your work to engross all your attention to the neglect of kind friends and the associations of kindred hearts.

Free the mind often from earth's gain to "lay up that treasure in heaven;" for there only shall we realize in full fruition the reward of labor and usefulness here.

For the Ohio Farmer and Cultivator.

REST.

BY CARRIE CLARK PENNOCK.

Day after day I watched her as she sat
Beside her humble casement, while her hands,
Meagre and tremulous, the distaff plied,
And sadly drew the slowly lengthening strands.

'Twas Autumn-tide, a calm and mellow time;
Slept in the purple haze the shadowy hills,
And the dark forests like tall mourners stood,
Dropping their leaves like tear-drops in the rills.

Athwart her door, the hop and wood-bine trailed
Their rank, dead bloom, and from the yellow grass
She heard, as some pale nun at eventide,
The sombre crickets pipe their evening mass.

Three years had passed, long years of grief and toil—
For toil was needful, though her wants were few—
And still the thread went on, and still her pulse,
Like a swift weaver's shuttle, quickly flew;

For she had heard, on such a day as this,
How he who wooed her in her maiden years,
And bore her bravely on his strong right arm,
Sharing her joy, and sorrowing in her tears—

Afar, in Southern prison, dark and drear,
Sickened and starved, and pined day after day,
Till the faint, feeble pulse went slowly out
Like the last glimmering of a taper's ray.

Oh God! 'twas hard; her stricken heart was sick,
And o'en her eyes refused the tears' warm flow,
Like some clear fount that suddenly is dried
By the fierce fires that bubble from below.

All day she idly sat, her fair-haired boy
Standing beside her, careless of his play;
And then the night came on, and to her couch
Sadly she went, to wake, and watch, and pray.

And weeks and months passed on; her boy was spared,
—His father's second self—and hope grew strong,
And willing hands toiled for their daily bread,
And her heart gladdened at his childish song.

And then there came a time—such times will come—
'Twas early May, the crocus was in bloom;
He said his feet were weary, and his toys
Lay idly scattered through the cottage room.

And fever came and flushed his tender brow,
And stamped its crimson seal on lip and cheek,
And white arms toss'd the weary watch-night through,
And palsied tongue became too dumb to speak.

Then kindly neighbors came—she saw them fold
The thin white hands upon his pulseless breast,
And smooth the tresses from the still, cold brow,
And lay him down in his young sinless rest;

And then a little coffin and a prayer,
And fresh mold heaped upon a tiny grave,
And all was buried, save her own poor heart,
Surging with sorrow, like some troubled wave.

'Twas passing strange—yet day by day she toiled
Till twice twelve months had gone their weary round,
Though oft she paused to fix her weary gaze
Where a white head-stone marked a little mound.

And when, at even-tide, she knelt to pray
Within the silence of her star-lit room,
Hope whisper'd glorious things, and Faith look'd up,
And heard the "Spirit and the Bride say, Come?"

One morn her neighbors missed her—from her roof
No smoke came curling on the morning air;
No hands the curtain from the casement drew,
And all was still, for Death himself was there.

Hushed was the droning wheel—the slender thread
Drawn to its feeblest length; then the tired hands
Dropped idly down, and Angels caught them up,
And bore them, shouting, to the heavenly lands.

FAIR OAKS, June, 1866.

RASPBERRY VINEGAR. — Every housekeeper should endeavor to have at least a small quantity of this delightful beverage. In cases of fevers it is indispensable, and will often quiet and soothe when nothing else will. Put two quarts of red raspberries, nice and fresh, into a jar, and pour over them a quart of good vinegar. Let it stand twenty-four hours. Strain through a flannel bag. Pour this liquid over two more quarts of fresh berries, and again let it stand twenty-four hours. Strain again. Allow three-quarters of a pound of loaf or good white sugar to every pint of juice. Stir well into the liquid, put into a stone jar, cover closely, and set to stand in a kettle of boiling water to be kept boiling for an hour. Strain it, and bottle ready for use. A tablespoonful to a tumbler of cold water is the manner of using it.—*Ex.*

HAIR OIL.—Take one pint of alcohol and a tablespoonful of castor oil, mix them together in a bottle by shaking them well for a few minutes, then scent it with a few drops of lavender. Alcohol dissolves castor oil, like gum camphor, leaving the liquid or wash quite clear. It does not seem to dissolve any other unctuous oil so perfecily, hence no other is equally good for this purpose.

One evening spent at home in study is more profitable than ten in lounging about country taverns.

Editor's Table.

CROPS IN OHIO.

During the last few weeks we have traversed the State of Ohio, up and down and crosswise, from Lake to Hamilton, and from what we have seen with our own eyes and learned from others, we come to the conclusion that the wheat crop in this State is a flat failure. The exceptions are few and far between, where half an ordinary crop will be harvested. The barley region of the lower Miami shows even worse than the wheat. Oats are doing fairly, but nothing to brag of. Rye is tall and thin. Grass may be counted a full crop, if the weather continues favorable. The same may be said of the potato crop. Corn looks very well, though backward; but there is plenty of time yet to make a good corn crop; and in the southern part of the State corn is looking nobly. There is a large breadth planted, and this will be the greatest field crop of the season.

THE AGRICULTURAL COLLEGE.

The commission appointed under the act of the 5th of April to receive proposals for the location of an Agricultural and Mechanical College, has issued a circular declaring that "propositions must be presented by the first day of September next, in order that time may be allowed to visit the several localities, and to prepare a report to be communicated to the Legislature"—and further, that the Congressional act specially pledging as an endowment fund all the moneys derived from the Land scrip, "and the State Legislature having indicated a disposition not to make an appropriation for the purchase of a site and the erection of buildings, it would seem probable that no proposition will be approved by the Legislature that does not offer to donate to the State say $100,000, the probable cost of suitable buildings, and land enough for experiments in agriculture, as contemplated by the act of Congress." The commission will consider and communicate to the Legislature all propositions that may be presented; but, "in view of the above facts, it is deemed not improper to notify those interested what, in our opinion, is expected to secure the location"—that is, $100,000 cash for buildings, and suitable lands for a farm. Parties making propositions must forward them in writing to Gov. Cox, chairman of the commission, at Columbus.

— We are glad to perceive that the members of this commission recognize, in accordance with the terms of the Congressional act, the inviolability of the principal of the land grant. When we urged this view—clearly sustained by the letter and spirit of the law—upon those who were actively canvassing the matter, a couple of years ago, it was treated as heretical. But "time at last sets all things even"—and may we not hope that even the idea of exclusiveness will finally be cast aside, and the "greatest good to the greatest number" be adopted as the rule in the disposal of the interest of the fund to be derived from the grant?

MILK FOR CHICKENS.—Corn meal mixed with buttermilk or loppered-milk is said to be the most healthful food for hens and chickens.—They should have plenty of the milk and meal by them, and especially early in the morning. This will prevent the young chickens from seeking subsistence in the wet grass by which many are chilled and die in consequence.

PUNCTUATION.—It appears certain that the ancients were not acquainted with the use of any marks to assist the reader in ascertaining the sense of the author, but that he was left to discover it from the general tenor of the subject.

Cleveland and Pittsburgh R. R.

1866. Summer Arrangement. 1866.

TRAINS WILL LEAVE CLEVELAND DAILY, (SUNDAYS EXCEPTED,) as follows:

8:00 A. M.—MAIL—Arrives at Pittsburgh, 3:30 P. M.; Harrisburgh, 2:20 A. M.; Baltimore, 7:00 A. M.; Washington, 10:35 A. M.; Philadelphia, 7:00 A. M.; New York, 10:00 A. M.; Wheeling, 8:00 P. M. Connect at Hudson with the C. Z. & C. Railroad for Akron, and connects at Alliance with the P. Ft. W & C. Railway for all points west.

2:40 P. M.—EXPRESS—Arrives at Pittsburgh at 9:30 P. M.; Harrisburgh, 8:25 A. M.; Baltimore, 12:30 P. M.; Washington, 4:30 P. M.; Philadelphia, 1:00 P. M.; New York, 8:15 P. M.; Wheeling, (Bridgeport,) 9:30 P. M.; Bellair (Benwood,) 9:40 P. M. Connects with the Baltimore and Ohio Railroad.

3:40 P. M.—ACCOMMODATION—Arrives at Alliance, 8:35 P. M. Cars from Cleveland run directly through, via Hudson, for Cuyahoga Falls, Akron and Millersburgh, connecting at Alliance and Orrville with the P. Ft. W. & C. Railway, for Canton, Massillon, Wooster and Mansfield.

CARS run through from Pittsburgh to New York (via Allentown) without change.

☞ FARE as low as by any other route.

☞ THROUGH TICKETS can be procured at the Union Ticket Offices Weddell House, at the Depot, or at the Euclid Street Station.

J. H. DEVEREAUX,
SUPERINTENDENT.

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